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Final San Juan Basin Cumulative Overview and Comment Letters



United States
Department
of the Interior



Bureau of Land Management
New Mexico State Office
Santa Fe, New Mexico

September 1983

NOTICE

This Final Cumulative Overview (CO) is one of a series of environmental and related documents coordinated by the Bureau of Land Management's (BLM's) San Juan Basin Action Plan (SJBAP). The CO considers the social, economic, and environmental effects of six separate but related proposals within the San Juan Basin area of northwestern New Mexico.

This Final CO should be retained and used in conjunction with the individual environmental documents for the following proposed actions.

- Coal Preference Right Leasing
- San Juan River Regional Coal Leasing
- Bisti, De-na-zin, and Ah-shi-sle-pah Wilderness Study Areas
- Ute Mountain Land Exchange
- New Mexico Generating Station
- Bisti Coal Lease Exchange

This document analyzes the significant cumulative impacts of the proposed actions for which the BLM is preparing Environmental Impact Statements (EISs) in the San Juan Basin. For detailed information on a specific proposal listed above, the individual EIS or Environmental Assessment (EA) should be referenced. The effects of the end uses of the Ute Mountain Land Exchange are addressed in the New Mexico Generating Station EIS. The effects of the coal Preference Right Lease Applications are addressed in the San Juan River Regional Coal Leasing EIS.

The comment letters pertain to the November 1982 Draft San Juan Basin Cumulative Overview, proposed New Mexico Generating Station and possible New Town, and the San Juan River Regional Coal Environmental Impact Statements.



United States Department of the Interior

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Dear Interested Parties:

This volume contains material common to both the Final Environmental Impact Statement, Public Service Company of New Mexico's Proposed New Mexico Generating Station and Other Possible End Uses of the Ute Mountain Land Exchange (NMGS) and the Second Draft San Juan River Regional Coal Environmental Impact Statements (SJRRCL). Comment letters received from Federal, State and local agencies and some representative groups are reprinted in their entirety together with the final cumulative overview.

The original draft SJRRCL EIS was released for public comment in November of 1982. The Final SJRRCL EIS was originally intended to be released now, but because of the importance of the coal leasing issue and the interest shown by the public, I have decided to release a second draft.

The public review period will be 45 days. Although the cumulative overview is final, comments will be accepted together with those pertaining to the SJRRCL EIS.

All comments should be addressed to the State Director, Bureau of Land Management, Caller Service 4104, Farmington, New Mexico 87401.

Sincerely yours,

Charles W. Luscher
State Director

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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
FINAL SAN JUAN BASIN
CUMULATIVE OVERVIEW

San Juan, McKinley, Sandoval, Valencia,
and, Cibola Counties, New Mexico

ABSTRACT

The Cumulative Overview (CO) considers the social, economic and environmental impacts of six separate but related proposals within the San Juan Basin area of northwestern New Mexico. This CO document is not, in and of itself, an EIS but is incorporated by reference in each of the individual site-specific EIS's (New Mexico Generating Station, San Juan River Regional Coal Leasing and Wilderness Study Areas EIS's). The CO is intended to facilitate the decisionmaking process by providing information to the BLM State Director, the Secretary of the Interior and the public concerning the potential cumulative impacts of the proposed power plant, the use of coal resources and wilderness areas and related proposals in the San Juan Basin.

Because all three proposed actions would be implemented at roughly the same time, some of the impacts of each would overlap geographically or temporarily with impacts from the other two. As used in the CO, the term cumulative impacts refers to "new" (previously undiscussed) information and are defined to be of two types:

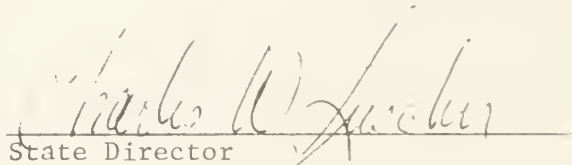
1. Combinations of previously identified significant impacts (from individual EIS's) that show increased levels of magnitude or severity from those presented in the EIS's and that, therefore, represent qualitative changes in the bases for mitigation planning.
2. Combinations of previously identified nonsignificant impacts that would occur coincidentally at sensitive or important locations and in the aggregate would be considered significant.

Type of Action: (x) Administrative () Legislative

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Filed with EPA as a Part of the Following EIS's:

San Juan River Regional Coal Leasing, Bisti, De-na-zin
and Ah-shi-sle-pah Wilderness Study Areas
New Mexico Generating Station


State Director

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FINAL CUMULATIVE OVERVIEW

CUMULATIVE OVERVIEW

ERRATA

CHANGES TO FCO PAGE CO-5, Air Quality.

1. Change line 10 to:

"New Mexico TSP standard for 1987. In 2000, total predicted"

2. Add the following complete sentence to line 21 at the end of the existing sentence:

"The worst-case assumption for the CO includes those tracts that are in the Target Level Alternative, including the Bisti #1 Tract, which is in part within the 2-km area of NMGS."

3. Add the following paragraph at the end of the first complete paragraph:

The CO shows only those cumulative impacts between the proposed coal lease tracts and NMGS. The impact area for the CO identified in the Draft Cumulative Overview on pages 2-1, 2-3, and 2-4 is a 12.5-kilometer radius around NMGS. Only increases of ambient total suspended particulates (TSP) concentrations resulting from mining operations and the NMGS proposal were considered in the modeling. Air quality impacts and other discussion are explained in the DCO on pages 3-1 through 3-7. One exceedance identified in the CO is 2000, and is over the annual New Mexico standard in a small area within 2 kilometers of NMGS and includes the Bisti #1 Tract in the worst-case analysis. This exceedance on a limited area is in addition to the impacts identified in the SJRRCL EIS, which discusses impacts due to potential coal mining. Overlapping impacts between the proposed NMGS and the proposed coal lease tracts are discussed only in the FCO.

FINAL CUMULATIVE OVERVIEW

INTRODUCTION

After receipt of public and agency comments on the Draft Cumulative Overview (DCO), the comments were reviewed and responses prepared on substantive comments. Following this it was also concluded that no major revisions would be required and that a complete reprinting would not be needed. As described in the Notice on the inside of the front cover of the DCO, this Final Cumulative Overview (FCO) incorporates by reference the DCO and includes any modifications to the DCO.

The FCO has four major sections. They are the Introduction, a revised table of Summary of Affected Resources Considered in the Cumulative Overview, the Comments and Responses on the DCO, and the Changes to the Text for the DCO parts 1, 2, 3, and 4. For the public participation process, please refer to the site-specific EISs chapters.

In the San Juan Basin, the BLM has pending before it proposals to lease coal, both competitively and noncompetitively (PRLA, San Juan River Regional Coal Leasing EIS); to approve rights-of-way needed as part of a 2000-megawatt (MW) power plant (New Mexico Generating Station EIS), and to consummate a related but separate land exchange (Ute Mountain Exchange); and to recommend to Congress lands for possible inclusion in the National Wilderness Preservation System (Wilderness Areas). Where proposals that have interactive cumulative environmental impacts are pending together in a region, NEPA requires that their interactive cumulative environmental consequences be considered together.

An Environmental Impact Statement (EIS) was prepared on each of the three major

proposals. A cumulative analysis of the proposals was prepared in a document called the Draft Cumulative Overview (DCO). The DCO, which was published and distributed along with the individual draft EISs, fully describes the effects on those resources for which the combined effects of the proposals show an interactive cumulative effect (an effect which is more than the mere addition of the effects of the individual projects), and summarizes major interactive cumulative effects.

As the CEQ regulations allow, where changes to a draft NEPA document are minor, the Bureau has decided not to reprint the text of the Draft in the Final CO. The Final Cumulative Overview (FCO) is included in a separate section of the Final New Mexico Generating Station (NMGS) EIS and the Final San Juan River Regional Coal Leasing (SJRRCL) EIS. The FCO contains a summary of the Cumulative Overview, comments and their responses, and necessary revisions to the DCO. The Final Cumulative Overview section in each of the EISs should be used in conjunction with the DCO.

The Final Bisti, De-na-zin, Ah-shi-sle-pah Proposed Wilderness Areas EIS will be published after the other San Juan Basin EISs due to the lengthy review procedures of the wilderness program. This Wilderness Final EIS will reference the FCO.

The table entitled "Summary of Affected Resources Considered" in the CO has been modified by adding the Minimum Surface Owner Conflict Alternative to reflect the change in the preferred alternative in the SJRRCL EIS. It should be noted, however, that the change in interactive cumulative impacts is not significantly different because most of the coal lease tracts near to the

proposed NMGS are in both the DEIS preferred alternative (Target Level) and the FEIS preferred alternative (Minimum Surface Owner Conflict Alternative).

All of the traits which would interact with the proposed power plant and the Wilderness Study Areas are in the Target Alternative, with the exception of La Plata #3 and La Plata #4, which together have only 22.5 million tons of in-place coal, or about 2.7 percent of the affected coal. Thus the Target Alternative is sufficient for a worst-case analysis for coal.

It is recognized some uncertainties exist. The final outcome of these uncertainties may or may not affect the outcome of the proposed actions. Some of the known uncertainties are the outcome of the Star Lake Railroad, whether or not it would be built, exactly when, where and at what level coal development would occur, the timing, construction, and size of the proposed New Mexico Generating Station, the availability of both surface or ground water for the proposed actions, and decisions to be made by Congress on the three Wilderness Study Areas. Due to the uncertainty in determining the precise dates for the implementation of these proposed actions, the cumulative impacts described in the Cumulative Overview could be significantly less.

Following the Introduction are sections entitled Cumulative Impact Summary and Environmental Consequences. These sections are followed by a revised "Summary Table of Affected Resources Considered." The comments and responses and changes to the text for Parts 1, 2, 3, and 4 of the DCO complete the FCO. (For the public participation process, please refer to the site-specific EIS Chapter 4.)

In the Comments and Responses section, similar comments were grouped together where possible in a single summary comment, followed by a single response to that comment with a listing from the index of who made the comments. The comments were grouped into 14 different categories. The Cumulative Overview Index Table shows the number of comments by commenter and category.

CUMULATIVE IMPACT SUMMARY

This section is a summary of findings from the CO analysis. These findings are supported by data and analytical descriptions presented in the CO Technical Report (BLM 1982). The CO analyzes the significant cumulative impacts of the proposals to offer coal for lease, both competitively and non-competitively (PRLAs, Regional Coal Leasing); to build a 2000-megawatt (MW) power plant (NMGS); to conduct a related but separate land exchange (Ute Mountain Land Exchange); and recommend to Congress lands for possible inclusion in the National Wilderness Preservation System (Wilderness Areas) in three Draft EISs: the San Juan River Regional Coal Leasing EIS, the Bisti, De-na-zin, Ah-shi-sle-pah Proposed Wilderness Areas EIS, and the Proposed New Mexico Generating Station EIS (all BLM 1982). Further detail on the individual proposed actions and their site-specific impacts is available in the respective EISs.

This summary is organized into three subsections: a review of the proposed actions, description of the portions of the environment affected by cumulative impacts, and a presentation of the cumulative environmental consequences.

Proposed Actions

San Juan River Regional Coal Leasing (SJRRCL) EIS. The Minimum Surface Owner Conflict Alternative has been selected as the FEIS preferred alternative, proposing to offer for lease .916 billion tons of coal from 11 tracts. This is a change from the Draft SJRRCL EIS in which the Target Alternative, proposing to lease 1.3 billion tons of coal, was selected as the preferred alternative. In addition to analyzing the effects of the various alternatives included in the SJRRCL EIS, the EIS also analyzes the effects of issuing the PRLAs.

New Mexico Generating Station (NMGS) EIS.

PNM has applied for the necessary rights-of-way (ROW) permits (transmission lines and pipelines) associated with their proposed 2000-MW coal-fired electric generating plant (NMGS) approximately 35 miles south of Farmington, New Mexico, in San Juan County. The proposed action includes two

40-mile water pipelines, a 5-mile 500-kV transmission line, and two approximately 100-mile 500-kV transmission lines. Four 500-MW units are proposed, with the earliest unit possibly being needed by 1990 and the other three units being needed through the 1990s. For the purposes of the environmental analysis, the four units were assumed to be needed in 1990, 1993, 1995, and 1998.

Bisti, De-na-zin, Ah-shi-sle-pah Proposed Wilderness Areas EIS. The Wilderness Study Areas (WSAs) proposal involves three Wilderness Study Areas in the San Juan Basin, two of which are recommended for designation as Wilderness Areas. These WSAs are Bisti and De-na-zin; together they encompass about 24,000 acres located north and east of NMGS. These WSA lands overlap in places with some PRLA tracts, and are close to other SJRRCL tracts.

Affected Environment

As used in the CO, cumulative impacts refer to previously undiscussed information and are defined to be of two types:

1. Combinations of previously identified significant impacts (from individual EISs) that show increased levels of magnitude or severity from those presented in the EISs and that, therefore, represent qualitative changes in the bases for mitigation planning.
2. Combinations of previously identified nonsignificant impacts that would occur coincidentally at sensitive or important locations, and in the aggregate would be considered significant.

Based on a preliminary analysis of the interactive effects of the proposed actions, 13 resources were identified for further analysis. The affected resources groups are discussed briefly below.

Air Quality. Air quality studies are concerned with the potential increase in concentrations of total suspended particulates (TSP). In a few small areas close to both the

proposed NMGS and the SJRRCL mines, there was concern that low-level dust concentrations from power plant and mining sources would combine to yield concentrations that would exceed prevailing standards. The study area for air quality was derived from dispersion modeling that delineated overlapping areas of measurable concentrations from both NMGS and SJRRCL; all proposed mine locations within 25 kilometers (km) of NMGS were identified to be included in the analysis.

Cultural and Paleontological Resources. The San Juan Basin presents an extensive body of physical evidence of a cultural history dating back 10,000 years or more. Cultural resources which could be affected are primarily archeological sites; other resources (e.g., gravesites or sacred areas) that have cultural significance to American Indian groups are also potentially affected. Paleontological resources consist mainly of extensive fossil beds which are internationally known for their richness and diversity. Together, the cultural and paleontological resources of the San Juan Basin provide unusual opportunities for research and interpretation because of their abundance and regional extent. The study area includes areas within one day's drive (100 miles) of the Farmington area.

Visual Resources. The concern of cumulative impact analysis for visual resources is increased visual contrast, as seen from a number of key viewing points. Key elements of the affected environment are the viewing points (within WSAs and designated parks and recreation areas, highway access points, and other scenic areas), the expected modification of the landscape (addition of structures, or changes to elements of the landscape), and areas where visual contrasts from more than one project are visible from the selected viewing points. Only NMGS and SJRRCL would cause modification to the landscape. Designating Bisti and De-na-zin as Wilderness Areas would preserve the landscape quality.

The study areas for cumulative visual impacts are areas close to NMGS facilities and SJRRCL tracts that are visible from key

viewing points or next to high-quality scenic areas. The critical viewing distance from NMGS facilities or SJRRCL tracts depends on the degree of visual contrasts, associated with a specific feature of the project (e.g., stacks, transmission line, and mine pit).

Recreation and Wilderness Resources. In addition to the Bisti and De-na-zin WSAs, there are seven other WSAs and other recreation areas (Chaco Culture National Historical Park [CCNHP], national forests, and state parks) within a day's drive of the larger communities (Farmington, Albuquerque, Grants, and Gallup). Cumulative impact analysis was concerned with the potential loss or degradation of these recreation and wilderness areas, because of the increased regional population and demand for use of these areas. The study area focused on the San Juan Basin, but also considered recreational opportunities within 100 miles of Farmington, and the communities within the Thoreau, Grants, and Gallup area.

Noise impacts were evaluated with respect to the WSAs. The concern was that the noise from other proposed actions would be audible in the WSAs and would degrade the wilderness experience of the users. The study area included the Bisti and De-na-zin WSAs, and roads and mines within about 20 km of NMGS.

Transportation. Cumulative impact analysis focused on increased traffic volumes due to the combined work forces of NMGS and SJRRCL, and whether the area's existing roads could handle these higher volumes efficiently and safely. The study area was based on a projection of commuter routes. The roads of greatest interest were NM 371 from Farmington south to county road C-14, and portions of NM 44. A few municipal roadways in the Farmington area were also considered.

Social and Economic Conditions. The NMGS and SJRRCL projects would produce changes in the region's population and potential economic structure. These changes would alter population and economic characteristics, and the levels of demand for housing, infrastructure, and services. The magnitude and timing of impacts change when the con-

struction and operation periods of NMGS and SJRRCL are analyzed cumulatively.

Preliminary analysis showed that the greatest increase in population due to NMGS and SJRRCL was in the Farmington area (Grants and Gallup are expected to be affected by SJRRCL but not NMGS). Therefore, the study area was limited to Farmington-area communities.

Soils and Vegetation. Affected areas include areas directly disturbed by construction and mining activities as well as those areas impacted indirectly as a result of increased population pressure (e.g., off-road vehicle activity).

Water Resources. The proposed water source for NMGS is San Juan River water stored at the Navajo Reservoir. The proposed water source for the SJRRCL is withdrawal of ground water mainly from the Westwater Canyon Member of the Morrison Formation, the Entrada Sandstone, and the Gallup Sandstone.

The EIS region coincides approximately with the San Juan Structural Basin as defined by Kelley (1951); this basin is larger than either the San Juan River Basin or the San Juan Underground Water Basin declared by the New Mexico State Engineer.

Livestock Grazing. The affected area includes federal and state grazing allotments as well as private lands and lands held in trust for the Navajo Tribe. Direct effects of loss of AUMs as well as indirect effects though disturbance of grazing use patterns and increased costs of operation are included.

Wildlife. The affected area includes those areas temporarily or permanently lost due to construction or mining activities as well as the indirect impacts on reproduction and disturbance of species' normal use of habitat.

Environmental Consequences

Cumulative impact analysis was conducted for the proposed actions as defined in the draft EISs. The preferred alternative for the SJRRCL has been changed from 1.2-1.5 billion tons to 800-900 million tons. Due to the uncertainty in determining precise dates

for the implementation of these proposed actions (SJRRCL and NMGS), the cumulative impacts could be significantly less than those described in the DCO.

The CO analysis now reflects an analysis of potential coal leasing impacts higher than that now being proposed. The table, "Summary of Affected Resources Considered in the Cumulative Overview," shows a comparison of some of the impacts at the former level and the revised preferred level for coal leasing.

Table CO-1 is a summary of findings from the cumulative impact analysis. Brief descriptions of the cumulative impacts assessed for each resource are presented below.

Air Quality. Increases of ambient TSP concentrations resulting from mining operations were projected by dispersion modeling for each mine. This was added to the modeled concentrations from NMGS, and then added to background levels. The results of this analysis indicate concentrations would be below all applicable national ambient air quality standards for TSP, and the 24-hour New Mexico TSP standard. Total predicted levels of TSP would be in excess of the annual New Mexico standard (60 ug/m^3) in a small areas within 2 km from one mine boundary. It is not known at this time whether such areas would be classified as "ambient air" (i.e., air to which the general public has access), since PRLA mine boundaries are not defined yet. However, under worst-case assumptions, exceeding the annual New Mexico standard would constitute a significant impact. Significant TSP impacts are discussed in the SJRRCL EIS. Beyond this small 2-km area, the TSP levels related to NMGS did not combine with TSP levels for SJRRCL to produce significantly different effects.

Development of coal resources and construction of NMGS would be accompanied by growth in population and the general economy of the region. This would mean more motor vehicles and more motor vehicle emissions of air pollutants, particularly carbon monoxide, hydrocarbons, nitrogen oxides, and lead.

Evaluation of the air quality impacts which would result from this growth depends primarily upon population growth projections. These projections were used for evaluating the associated indirect air quality impacts. The proposed Wilderness Areas, which would be Class II air quality, would not have additional impacts on air quality.

Cultural and Paleontological Resources. The following impacts were identified:

1. If any wilderness areas are designated or if other special areas (e.g., ACECs) are designated, the existing cultural and paleontological resources would be conserved by allowing research under certain circumstances.
2. Significant research information would be obtained about the cultural and paleontological resources of the San Juan Basin either through mitigation studies, or through resources discovered during construction or operation of NMGS and the SJRRCL mines.
3. Some cultural and paleontological resource would be destroyed, which would increase the significance of remaining resources. Information gathered may be of less value to future researchers with unknown research interests, or improved techniques.
4. There would be an increase in the loss of cultural and paleontological resources through vandalism, pot-hunting, and natural erosion due to increased visitation.

Visual Resources. Based on visual contrast ratings of landscapes that would be modified by NMGS and SJRRCL features, and viewed from high-quality scenic areas, changes in visual resources were compared to Visual Resource Management objectives (according to the BLM-VRM system) for different classes of resources. There would be significant degradation of visual quality as viewed from two locations on the northern

side of CCNHP (Pueblo Alto and Pueblo Pintado), and a reduction in visual quality from several locations within the Bisti and De-na-zin WSAs (some SJRRCL features would be visible in many viewing directions from within these areas). There would also be high visual contrasts on highway approaches to both the WSAs and CCNHP. Some mitigation may be achieved by softening the visual contrasts resulting from power transmission lines and surface mines through design and cosmetic treatments.

Recreation and Wilderness Resources. Based on the projected increase and distribution of regional population, estimates were made of the probable demand for and participation in several recreation activities. It was assumed that high-quality recreation areas close to Farmington would be affected first, and that user preference for similar recreation resources would generally diminish with distance. Several recreation areas were predicted to become overcrowded, and thus susceptible to degradation. In addition, direct impacts to recreation and wilderness areas close to NMGS and SJRRCL were considered, in relation to findings of other resource analyses (visual resources, noise, etc.).

The assumption that users would seek more distant but equivalent recreation experiences if nearby areas were crowded is less likely for the cumulative impact analysis than when one project was considered. Recreation use derived from SJRRCL would tend to concentrate in the southern San Juan Basin, while users related to NMGS would tend to seek recreation areas nearer to Farmington. When both projects are considered together, all recreation resources in the Basin would be sought after equally with few better prospects for a quality recreation experience available except at more remote locations. The most seriously overcrowded areas in the Basin are likely to be Navajo Lake State Park, Angel Peak Recreation Area, Bluewater Lake State Park, and the CCNHP.

The combined noise impacts of truck traffic (from both NMGS and SJRRCL mines), employee-related traffic from all

projects, and blasting at the mines was considered in relation to users of the Bisti and De-na-zin WSAs. Most of the people subject to project-related noise would be employees; noise impacts to employees are covered by environmental health and safety regulations. It is assumed that "on-site" noise levels would not be significant by regulatory definition, or would be mitigated.

Increased hourly noise levels greater than 9 dB(A), which roughly represents a doubling to perceived noise, were considered to be significant. Based on this definition, significant noise impacts would occur at the boundary of the Bisti WSA closest to NM 371, and the boundary of De-na-zin closest to county road C-15. From some locations within these WSAs, increased noise levels greater than 9 dB(A), resulting from traffic along these two mentioned roads, are projected to occur. These noise impacts could be lessened by reducing the number of vehicles by encouraging car pools, or by routing traffic away from sensitive areas.

Some degradation in the quality of wilderness experience due to visual degradation and noise would be expected within both the Bisti and De-na-zin WSAs.

Transportation. Traffic volumes on roadways in the San Juan Basin were projected by combining commuter volumes developed in the analysis of social and economic conditions, and truck volumes estimated in the noise analysis. These data were assembled for specific roads (according to projected commuter routes and mine locations) and for each year of operation of the NMGS and SJRRCL projects. Since the transportation impacts of either NMGS or SJRRCL would be significant, any joint increase in projected volume over previous estimates was considered to be significant.

The most significant impact would be on NM 371 between Farmington and the NMGS plant site, where traffic volumes are likely to be about 100 percent greater than projected by the State Highway Department without the proposals, and about 60 percent over standard maximum capacity for a roadway of

that size and duty type. Since the magnitude of the cumulative impact would be so great, consideration should be given to expanding the roadway from 2 lanes to 4 lanes.

Social and Economic Conditions. Cumulative impact analysis focused on two topics: rapid growth in the region (and the ability of communities to respond in a timely fashion with housing, services, and facilities) and decreased opportunities for the pursuit of traditional American Indian values and lifestyles. An increase in employment opportunities resulting from simultaneous development and operations of NMGS and SJRRCL would cause rapid growth and associated problems. Together, the two projects would add approximately 9000 direct jobs at peak, generating about twice that number of indirect jobs. About one-third of the population associated with these jobs would seek residence in the southern part of the region (centered on the Grants-Gallup area), and would primarily be a result of SJRRCL mining activity. Therefore the cumulative impact analysis focuses on communities which would be affected by the joint employment opportunities of both NMGS and SJRRCL; these communities are located in the Farmington area.

Total direct employment from NMGS and SJRRCL would peak at 8977 jobs in the year 2019. Approximately 6000 of these jobs would be available to residents of the area, plus an additional 12,000 to 13,000 indirect employment opportunities.

The greatest population inflows would occur in study area communities in 1995 and 1996. At that time, Farmington's population could reach 56,600 under the proposed actions--a 26 percent increase above projected levels without the proposed actions. Under the proposed actions, Aztec's and Bloomfield's population would each increase by about 1700, a percentage increase of 23 percent and 26 percent, respectively.

Along with the creation of employment opportunities affecting these communities would be increases in personal income and sharply increased needs for housing, infrastructure, and human services. The greatest

annual cumulative increase in need for housing would occur in 1986 when an additional 2550 units would be required as a result of project-related population growth.

Public finances would be affected in response to increased needs and increased public revenues from the new population. Traditional Navajo values and lifestyles would be affected through changing population composition, increased income, and increased mobility.

The significant impacts were estimated to be:

1. Population growth in Farmington in 1985-86 would occur at rates greater than 10 percent per year. These growth rates are likely to stress community resources, and may cause adverse social and economic conditions for several years beyond the periods of fastest growth.
2. Expansion of the regional economy from the mid-1980s through the 2020s, measured in terms of employment, income, and public revenue. San Juan County would experience a slight deficit (\$17,000) in overall operating funds in 1984-85 and surpluses thereafter which would reach \$2.6 million in the year 2000.
3. Excess housing demand in the Farmington area in the 1985-1995 period.
4. Potential inability of human services agencies to keep pace with demand.
5. Unspecified but potentially significant impacts to American Indians (especially Navajos), generally related to decreased opportunities to pursue traditional lifestyles.

Soils. Many impacts to soils could be successfully mitigated. General types of mitigation proposed including mulching, topsoiling, drainage control, and reseeding. Combinations of these measures would be used as appropriate.

It should be noted that only a small percentage of the total area to be disturbed would be affected at any one time. This, plus the location of the coal lease tracts and the NMGS facilities, would serve to minimize the interactive impacts of the proposals.

Water Resources. The proposed water source for the NMGS is surface water from the San Juan River, whereas the coal lease tracts are proposed to utilize only ground water. Therefore, no interactive cumulative impacts would occur.

Vegetation and Livestock Grazing. No interactive cumulative impacts would occur because the areas of use by the SJRRCL proposal and the NMGS proposal would not coincide.

Wildlife. Interactive cumulative analysis was not necessary, as the proposals would not overlap and would not be contiguous.

Species of High Federal Interest. For PRLAs, coal mining would adversely impact the nests of one prairie falcon, five ferruginous hawks, and one golden eagle. For the Target Level Alternative, coal mining would adversely impact the nest of one prairie falcon, seven ferruginous hawks, and two golden eagles, and 200 acres of elk and deer habitat. No raptor nesting sites would be impacted by NMGS construction nor would any deer or elk critical habitat be affected. The proposed NMGS transmission lines would have a potential impact on two raptor nests within a 1-mile-wide corridor but would have no potential impact on critical mule deer or elk critical winter range. The proposed water delivery system would have a potential impact on 35 acres of mule deer critical winter range at the intake site and 1 acre along the proposed pipeline.

Threatened and Endangered Species. For the SJRRCL area, which includes PRLAs and the Target Level Alternative, no critical habitat for federal threatened or endangered wildlife species has been identified in the Biological Assessment prepared for Section 7 Consultation (Endangered Species Act of 1973) with the U.S. Fish and Wildlife Service. Potential habitat may exist for the black-footed ferret and the Mesa Verde

cactus. For the plant site, no threatened or endangered species would be impacted because the species of concern do not occur in areas that would be disturbed by construction activities. For operation of NMGS, there is a worst-case potential that the greenback cutthroat trout, bald eagle, and the Mancos milkvetch could be affected by acid precipitation effects. Both the proposed water delivery pipeline system and transmission system would cross potential Mesa Verde cactus habitat. BLM will complete consultation with the U.S. Fish and Wildlife Service as needed in the future to ensure compliance with the Endangered Species Act.

COMMENTS ON THE DRAFT CUMULATIVE OVERVIEW

A copy of the Draft Cumulative Overview (DCO) was sent to all who had requested a copy of the NMGS EIS, the SJRRCL EIS, and the WSAs EIS. Approximately 2556 copies were sent to those receiving the site-specific EISs.

COMMENTS RECEIVED

During the five hearings there were 125 oral comments directly concerning the DCO. Of those comments there were 63 that are considered substantive. The substantive comments are categorized in the Cumulative Overview Index Table.

There were 374 written comments received on the DCO. Of these there were 238 that are considered substantive. (These comments are also categorized on the Cumulative Overview Index Table.)

SUMMARY OF DCO COMMENTS

The majority of the comments were received in the area of social and economic conditions, cultural resources, procedural questions, hydrology, water quality, and the proposed actions.

Comments on the social and economic sections centered mainly on the various aspects of the Navajo people and their lifestyles. Cultural resources comments were mostly technical in nature or dealt with procedural aspects of compliance. Many

comments were received which were concerned with various legal aspects of existing laws or regulations or with pending lawsuits, particularly those involving the Navajo Nation or the Jicarilla Apache Tribe. Procedural concerns were generally about various actions or the way things were done concerning the DCO. The concerns about water were mostly about its lack of inclusion into the DCO, while the proposed action concerns were mainly about the approach used in the DCO.

COMMENTS AND RESPONSES

Following the Cumulative Overview Index Table (CO-1) is a category-by-category response to substantive comments received on the DCO (Table CO-2). Comments which were similar were grouped together with one common response provided.

As required by CEQ, all comments were considered and responses were made to comments that presented new data, questioned facts or analyses, or raised issues bearing directly upon the environmental effects of the proposed actions. In some cases these responses entailed revisions in the DCO text.

Requests for Additional Hearings and Extension of Comment Period

Comment 1. Comments, including those from the Governor and Attorney General, suggested that additional public hearings be held on the environmental documents or that the public comment period was too short to adequately review and respond to the documents. (H-104, H-105, H-108, H-109, H-110, H-112, H-113, H-114, H-115, H-116, H-119, H-166, O-179, and 18.)

Response 1. In response to these comments, additional public hearings were held in Santa Fe on March 14, 1983, and in Pueblo Pintado on March 17, 1983, and the public comment period was extended an additional 60 days from February 7, 1983, until April 8, 1983.

Proposed Action

Comment 1. Numerous comments stated that the DEISs and CO were inadequate and that all the proposals (along with the land-use plan) should be incorporated into a regional EIS covering all existing and future

actions that might occur in the San Juan Basin. Other comments stated that an EIS should be prepared on the San Juan Basin Action Plan (SJBAP). Many of these comments also suggested that the environmental documents, including the CO, were not prepared in accordance with the National Environmental Policy Act (NEPA). (H-90, H-110, H-113, H-117, H-167, H-178, H-374, 17, 25, 28, 52, 254, 255, 313, 450, 482, 485, 486, 488, and 497.)

Response 1. The BLM is studying the cumulative effects of pending proposals, but it is not doing so in the form of a "regional" EIS, nor is it required to do so in that form because there is no regional plan proposed. The BLM's analyses of the pending energy and wilderness-related proposals in the San Juan Basin fully comply with NEPA, including any requirements for analysis of cumulative effects described in Kleppe vs. Sierra Club, 427 U.S. 390 (1976). NEPA requires a federal agency to consider cumulative impacts of related proposals, and to do an analysis of the impacts of a proposal for a regional plan or program. No regional plan or any proposal for a regional plan or program exists in the San Juan Basin, although there are several separate but interrelated proposals pending before the BLM. The BLM developed the San Juan Basin Action Plan as an administrative and organizational approach for preparing EISs on the pending proposals. The proposals are NMGS, competitive and PRLA coal leasing, and Wilderness Study Areas. The BLM chose to study the potential environmental impacts of these pending proposals by: (1) preparing an Environmental Impact Statement on each proposal; (2) preparing a Cumulative Overview to study the cumulative effects of the proposals; and (3) by circulating the documents together to allow coordinated agency and public review. To facilitate this review, the final coal and NMGS EISs each contain a summary of the cumulative impacts, the changes made to the Cumulative Overview as a result of comments, and the responses to comments made on the Cumulative Overview. In Kleppe vs. Sierra Club, 427 U.S. 390, 410 (1976), the court said that when proposals "that will have cumulative or synergistic environmental impacts upon a region are pending concurrently before an agency, their

Table CO-1. CUMULATIVE OVERVIEW INDEX TABLE (Public Hearings)

Number	Commenter	Request for Additional Hearings	Proposed Action	Alternatives	Environmental Consequences	Mitigation	Procedural	Water	Air Quality	Noise	Cultural and Paleontological Resources	Visual Resources	Recreation and Wilderness Resources	Transportation Resources	Social and Economic Conditions
Crownpoint Hearings 1/10/83															
H-103	Carol Kaping														
H-104	Jerry Elwood														
H-105	Frank Chee Willeto														
H-106	Dr. Robert Williams														
H-108	Billy Chiquito														
H-109	Carol Garner														
H-110	Mary Ellen Wojtasiewicz														
H-111	Brian Chanafry														
H-112	Donna Snyder														
H-113	Paul Fyfe														
H-114	Leonard Tsosie														
H-115	Mimi Lopez														
H-116	Scott Portman														
H-117	John Stedd														
H-118	Allison Monroe-Exhibit #1														
H-119	Jerry Elwood-Exhibit #2A														
H-166	Carol Garner-Exhibit #4														
Farmington Hearings 1/12/83															
H-60	Ike Halliday														
H-88	Art Holyan														
H-90	Tamara Wiggins														
Albuquerque Hearings 1/14/83 & 1/15/83															
H-124	Pat Mainright														
H-152	David Brugge														
H-159	Kathy McElmury														
H-165	John Teague														
H-166	Teena Ditchak-Topper														
H-167	Pat D'Andrea														
H-178	Delafield C. DuBois														
H-132(a)	Arch McCallum (Exhibit #3)														
H-160(a)	Jeff Boyer (Exhibit #12)														
Santa Fe Hearing 3/14/83															
H-342	Andrew Davis														
H-374	Jerry Elwood														
H-374	Jerry Elwood (Exhibit 1)														

Table CO-1. CUMULATIVE OVERVIEW INDEX TABLE (Letters)

Number	Commenter	Request for		Proposed Action	Alternatives	Environmental Consequences	Mitigation	Procedural	Water	Air Quality	Noise	Cultural and Paleontological Resources		Visual Resources	Recreational and Wilderness Resources		Transportation Resources	Social and Economic Conditions
		Additional Hearings	Proposed															
4.	U.S. Bureau of Mines																	
6.	Adcock and Associates																	
17.	Monroe Poteet																	
18.	Peter J. McKenna																	
19.	U.S. Department of Agriculture																	
25.	Miller E. Francis																	
28.	U.S. Bureau of Mines and Mineral Resources																	
35.	J.D. Witt																	
38.	Brian J. Chanaty																	
41.	Aztec Chamber of Commerce																	
48.	Walton Hawk																	
49.	David M. Brugge																	
52.	Patricia A. D'Andrea																	
56.	James V. Lewis																	
0-179.	Marta Chilton																	
205.	Lillian Tenopir																	
209.	Onshore Solid Minerals Division Compliance Review																	
217.	USGS, Reston, Va.																	
232.	Museum of Northern Arizona																	
241.	Loretta Bifulco																	
244.	Bureau of Indian Affairs																	
249.	Floy Barrett																	
253.	Irene Gilbert																	
254.	Graig Thompson																	
255.	Roland A. Goodman																	
264.	Kyle MacDonald																	
266.	State Parks and Recreation Div. Planning and Development Section																	

Table CO-1. CUMULATIVE OVERVIEW INDEX TABLE (Letters) (Continued)

Number	Commenter	Request for Additional Hearings	Proposed Action	Alternatives	Environmental Consequences	Mitigation	Procedural	Water	Air Quality	Noise	Cultural and Paleontological Resources	Visual Resources	Recreational and Wilderness Resources	Transportation Resources	Social and Economic Conditions
269.	The Jicarilla Apache Tribe							2							3
272.	Janice Lucas														1
310.	Homer Bishara, M.D.														1
311.	Nina Rappaport, Solstice Project														1
313.	Rob Frantz														
316.	Tish M. Steinfeld														
355.	Arizona Archaeolog- ical Council, Peter J. Pillies, Jr., President										4				2
389.	Katherine Spencer Helpern, Ph.D.														1
398.	Dr. John Bartlett, NM Citizens for Clean Air and Water								4						
404.	Dick M. Stinfeld														
408.	David A. Phillips, Jr., Ph.D.										1				
428.	Navajo Health Systems Agency														3
429.	New Mexico Archaeolog- ical Council										1				
437.	Randy Albright														
438.	Americans for Rational Energy Alternatives Inc.								5			1			2
444.	Navajo Nation														
449.	Arizona Archaeologi- cal Council							4			1			1	5
450.	DNA-Peoples Legal Services Inc.														
460.	Earl Neller										9				
469.	Wendy Allen										1				1
470.	SF Coal Corporation										4				
477.	Fish and Wildlife Service, Albuquerque, NM												2		2

Table CO-1. CUMULATIVE OVERVIEW INDEX TABLE (Letters) (Concluded)

Number	Commenter	Request for		Environmental Consequences	Mitigation	Procedural	Water	Air Quality	Noise	Cultural and Paleontological Resources	Visual Resources	Recreational and Wilderness Resources	Transportation Resources	Social and Economic Conditions
		Additional Hearings	Proposed Action											
478.	State of New Mexico					2	2			6			2	4
482.	Southwest Research and Info. Center		1											
484.	Committee on Coal						2							1
485.	Committee on Coal		8	2		3	5	1						2
486.	Rio Grande Chapter Sierra Club		1	1				1						1
488.	DNA-Peoples Legal Services, Inc.		3	1			1	3		1				4
497.	Sierra Club - Legal Defense Fund, Inc.		1	1	1		1	1		1				
498.	National Park Service - Southwest Region									3				
505.	Bureau of Reclamation - Upper Colorado Region					1								
520.	John J. Loscocco			1					1					
524.	Tamara G. Wiggins					1								1
531.	Office of Surface Mining		1			5				2				

Table CO-2. SUMMARY OF AFFECTED RESOURCES CONSIDERED IN THE CUMULATIVE OVERVIEW^a

Resource	Study Area	Impact Topic	Indicator of Significance	Cumulative Impacts Assuming Target Alternative Leasing	Cumulative Impacts Assuming Minimum Surface Owner Consent Alternative Leasing
Air Quality	12.5-km radius from NMGS, overlapping TSP contours from NMGS and SJRRCL. All mine locations within 25 km of NMGS were identified to include in the analysis.	Increase in TSP concentrations from fugitive dust and stack emissions.	Concentrations ($\mu\text{g}/\text{m}^3$) in excess of any 24-hour or annual standard.	One small area close to Bistl mine No. 1 may experience TSP concentrations in excess of a standard. The potential for additional concentrations in excess of standards may occur in a worst-case situation in which a PRLA mine is located close to another mine (i.e., 1 km or less).	No direct synergistic impact from NMGS and coal leasing in the 12.5-km radius from NMGS. Lower interactive impacts than from Target Alternative in the study area.
Cultural & Paleontological Resources	Resources within 100-mile radius of greater Farmington area.	Primarily, indirect effects of increased exposure of resources to an increased population (i.e., vandalism, commercial looting, inadvertent damage) as well as deliberate conservation and interpretation of some resources.	Due to large numbers of sensitive resources and their prescribed significance (36 CFR 60.6, PL 96-550, AIRFA, etc.), all adverse cumulative impacts are considered to be significant.	Impact includes conservation of some resources through land withdrawal and preservation of important information through its acquisition and synthesis in connection with mitigation. Consumption of the resource base through research and mitigation activities, and loss of some resources to purposive or inadvertent disturbance of sites by a larger population. Eventual surface disturbance of 140 sq. mi. with a potential of 13.5 sites per square mile.	Lower interactive impacts than from Target Alternative in the study area. Eventual surface disturbance of 117 sq. mi.
Visual Resources	Overlapping portions of areas within selected visual ranges (3-10 mi.) of NMGS and SJRRCL project features which also are visible from key viewing points (primarily from WSAs, designated park and recreation areas, highway access points, and other scenic areas).	Degradation of scenic quality within the critical viewing distance from WSAs and other regionally important locations (e.g., cultural sites), due to landscape modifications from combined NMGS and SJRRCL proposed actions.	Numerical contrast rating thresholds in the BLM VPM system (exceeding any established threshold was considered to be significant).	Impacts from seven key viewing points, most significantly along the northern side of Chaco Culture National Historical Park, from within the WSAs, and at highway access points to these areas. Most are nationally significant or potentially so. In 1981, 4000 visitors visited Pueblo Alto in CCNHP. An annual increase of 17 percent is being recorded at Pueblo Alto.	Similar level of impact found for Target Alternative.
Recreation/ Wilderness	Recreation areas and all WSAs (9 areas) within 100-mile radius from Farmington and the communities in the Grants-Gallup area.	Loss or degradation of recreation or wilderness resources or their essential characteristics, primarily as a result of an increased regional population and its consequent demand for and use of these resources, or their close proximity to the proposed actions.	Loss or degradation of resource areas from crowding of recreation facilities (based on unit-use standards), any degradation of essential environmental qualities (scenery, noise) associated with high-quality recreation and wilderness experiences.	Degradation of the quality of wilderness experience in Bistl and De-na-zin WSAs, overcrowding of recreation areas close to Farmington and Grants, and degradation in the quality of dispersed recreation activities in the region.	Less overall impacts than from Target Alternative. Significantly less effect on the Bistl and De-na-zin WSAs.

Table C0-2. SUMMARY OF AFFECTED RESOURCES CONSIDERED IN THE CUMULATIVE OVERVIEW^a (continued)

Resource	Study Area	Impact Topic	Indicator of Significance	Cumulative Impacts Assuming Target Alternative Leasing	Cumulative Impacts Assuming Minimum Surface Owner Consent Alternative Leasing
Recreation/ Wilderness (continued)	The study area for noise impacts included Bisti and De-na-zin WSAs, and mines and roads within 20 km of NMGS.	Increased noise levels from blasting, haul trucks, and employee-related travel.	Increment of 9 dB(A) above baseline noise levels in WSAs.	Increases in hourly noise levels greater than 9 dB(A) over baseline is predicted at the boundary of De-na-zin WSA, as a result of worker and haul traffic in excess of 700 vehicles per hour on C-15.	
Transportation	Roads and railroads linking Farmington area communities with Gallup and Grants-area communities. Includes all roads and railroads that provide access to NMGS and SJRRCL components.	Increased traffic volumes and safety hazards on existing roadways.	Increase in peak volume greater than peak volumes estimated for NMGS or SJRRCL individually, and close to or greater than designed roadway capacity or surface structure tolerance.	Significant overloading of NM 371 between Farmington and NMGS site, with an increase in average daily traffic from 2540 in 1977 to 6335 in 1992. This would be just below the maximum vehicle capacity for a 2-lane highway.	Overloading of NM 371 between Farmington and NMGS site could occur but levels would not be significantly higher than with NMGS alone because no coal lease tracts in the Bisti area are included in this alternative.
Social and Economic Resources	Communities in the greater Farmington area (Farmington, Aztec, Bloomfield, Flora Vista, Lee Acres, and Lower Valley) where allocation of the combined increases in population from NMGS and SJRRCL have been made.	Employment, population growth, housing, community infrastructure and services, and public finances.	Ten percent annual growth rate or greater in population or public revenue.	Significant population growth in 1985-86, significant expansion of regional economy from 1985-1995, excess housing demand in mid-'80s and early '90s, shortfall of projected human services to demand.	Population growth would be less than for the Target Alternative especially in the Farmington-Bloomfield-Aztec area.
		Shortfall of projected public revenue to meet projected demands, or inability of private sector to meet such demands.		San Juan County would experience a slight deficit (approximately \$17,000) in overall operating funds in 1984-85, and surpluses thereafter which could reach \$2.6 million in 2000.	
		Demand for community facilities and services (education, health and human services, police and fire protection, recreation) in excess of existing and projected supply.		Direct impacts (from mining) would occur to 125 residences, 34-44 known grave sites, and 7 known sacred sites.	Direct impacts (from mining) would occur to 80 residences, 32-42 known grave sites, and 4 known sacred sites.
	Portions of San Juan Basin occupied and used primarily by the Navajo.	Opportunities to pursue traditional American Indian values and lifestyles.	Reduction of opportunities to pursue traditional values and lifestyles.	Unquantified, but probably significant, reduction in opportunities to pursue traditional lifestyles. A maximum of 20,000 Navajos might be affected.	Similar level of impact as estimated for Target Alternative.

Table CO-2. SUMMARY OF AFFECTED RESOURCES CONSIDERED IN THE CUMULATIVE OVERVIEW^a (concluded)

Resource ^b	Study Area	Impact Topic	Reason for Finding of No Significant Active Effects	Summary of Cumulative Effects, Target Alternative and NMGS	Summary of Cumulative Effects, Minimum Surface Owner Consent Alternative and NMGS
Soils	Approximately 3 km (1.9 miles) from the center of the NMGS site. This includes part of Blist No. 1 and Blist No. 8 tracts.	Soil erosion from disturbance due to construction and mining.	No increase in rate of erosion due to project overlap.	The cumulative total acres disturbed which would result in decreased productivity is 70,347. This includes 31,970 acres for PRLAs, 35,977 acres for Target Level, and 2400 acres for NMGS.	A reduction of 14,712 acres of impact would occur under this alternative.
Water Resources	San Juan River and the San Juan Structural Basin as defined by Kelley, 1951. See SJRRCL references.	No interaction of surface and ground water through use or mixing of aquifers.	No interaction of surface and ground water through use or mixing of aquifers.	The cumulative total projected water use of the PRLAs is 12,850 acre-feet of ground water; for the Target Level Alternative, 3700 acre-feet of ground water; and for NMGS, 35,000 acre-feet of surface water; for a grand total of 51,550 acre-feet.	A reduction of 1190 acre-feet of water use from ground water would be realized under this alternative.
Vegetation	See Soils	Disturbance of vegetation due to construction and mining.	No increased loss of vegetation due to synergistic impact.	The cumulative total of vegetation disturbed during mining would be for PRLAs 31,718 acres; Target Level Alternative, 35,977 acres; and for construction and operation of NMGS, 2400 acres.	A reduction of 14,712 acres of impact would occur under this alternative.
Livestock Grazing	See Soils	Loss of AUMs due to construction and mining.	No increased loss of AUMs due to synergistic impacts.	The cumulative total AUMs lost during mining would be for PRLAs, 4169 AUMs; Target Level Alternative, 5798 AUMs (loss would occur until reclamation is completed); and for NMGS, 160 AUMs.	The total AUM loss due to mining would be reduced by 854 under this alternative.
Wildlife	See Soils	Loss of habitat and impact on reproduction.	No increased pressure on species and permanent loss of habitat.	The cumulative total acres to be excluded from wildlife use until after reclamation is completed would be for PRLAs 32,423 acres and Target Level Alternative 35,977 acres, for a total of 68,400 acres. Total acres of wildlife habitat disturbed by NMGS is 2400 acres. The grand total of wildlife habitat acres disturbed over the life of the proposed actions is 70,800 acres.	A reduction of 14,712 acres of habitat disturbance would occur under this alternative.

^a No additional synergistic or cumulative impacts beyond those identified in the Target Level Alternative would be incurred by leasing at the High Level Alternative. This occurs because all proposed coal lease tracts that are in the vicinity of the proposed NMGS are included in the Target Level Alternative. Also, all of the tracts, except Le Plate #3 and #4, that affect the Farmington/Bloomfield/Aztec economy are also in the Target Level Alternative. These two tracts account for only 22.5 million tons and are expected to employ 156 persons at the mines; their additional cumulative effects are minimal.

^b The impacts of resources listed below, as analyzed in the individual EISs, did not meet the requirements for further analysis in the CO. I.e., the

environmental consequences must be considered together." This is exactly what was done here. The structure and format allow efficient use of BLM and public resources and ensure that a hard look will be taken at impacts of the pending actions which have related or connected effects. The procedures result in a full and fair look at the proposals with no intent or effect of minimizing their cumulative effects through segmentation or separate consideration. The proposals are, as Kleppe vs. Sierra Club requires, being considered together. The decisions to be made on the separate actions are independent of each other.

Comment 2. Table 1-3, p. 1-10; Table 1-6, p. 1-20; and Table 1-7, p. 1-25. The tables do not mention the New Town proposal. Cumulative impacts to habitat, water resources, recreation, and wilderness values may result from New Town and should be discussed. (477.)

Response 2. The CO does not discuss the possible New Town because it is not a proposed action; however, since it is a possible end use of the Ute Mountain Land Exchange, it is addressed in the NMGS FEIS.

Comment 3. The benefits of delaying construction of the New Mexico Generating Station should be discussed in the CO. (531.)

Response 3. The NMGS Delay of Action Alternative is discussed on p. 3-52 of the NMGS DEIS. The CO considers only impacts of the proposed actions and not their alternatives. (Also refer to Alternatives, Response 1.)

Comment 4. One comment was received which noted, the CO's lack of discussion concerning Woodward-Clyde Consultants' participation in preparing the CO. The comment went on to say, "This is certainly of interest to the public since PNM and its subsidiaries and joint venture partners, Arch Minerals, have an interest in all the proposed actions...." The comment also states that if an EIS is to be prepared on the San Juan Basin Action Plan, it would be improper for a third party to fund it. (485.)

Response 4. A paragraph has been included in the CO which presents the third-party contract procedures for BLM, Woodward-Clyde Consultants, and PNM for preparation of the CO. Copies of the agreements between BLM and Woodward-Clyde Consultants, and between BLM and PNM, are available for public inspection at the Bureau of Land Management New Mexico State Office (BLM-NMSO). As required by the CEQ regulations, Woodward-Clyde Consultants has executed a disclosure statement. (See the following section on Changes to the Text, for DCO p. 4-2.)

Alternatives

Comment 1. Several comments indicated a need to explore other alternatives such as alternatives that place more emphasis on the environment or lower levels of coal leasing or development of the area as a scenic/scientific study area. (H-115, H-117, 266, and 485.)

Response 1. The individual EISs analyze reasonable alternatives to their respective proposed actions as defined in CEQ, including lower levels of coal leasing in the SJRRCL EIS. As for an alternative to preserve the existing environment, the no-action alternative included in the final SJRRCL would evaluate the effect of no new coal leasing.

The CO's purpose is to identify cumulative and interactive effects of the pending proposals as per 40 CFR 1500.25(a)(2); it does not identify any new alternatives. This is consistent with the Department of the Interior policy that it has no regional plan or program for the region. Regional alternatives are required only if there would be a regional plan or program. If the BLM chooses any alternative which would have significant cumulative effects not previously analyzed, it would have to undertake necessary analysis before deciding on that alternative. Thus the Target Alternative for coal leasing is included for maximum impacts.

It was not considered practical for BLM to analyze the potential cumulative impacts of the various combinations of alternatives covered in the individual EIS documents.

Therefore, only the significant interactive cumulative impacts of the various proposed actions were included in the CO.

BLM concluded that the site-specific EISs and the CO as designed would be sufficient for the decision-making purposes.

Environmental Consequences

Comment 1. Several comments stated that the CO was inadequate, that it did not analyze cumulative impacts, that a more detailed analysis of the additive impacts was necessary, or that the synergistic impacts were not analyzed. (438, 485, 486, 488, and 497.)

Response 1. The CO document was developed to analyze the significant interactive cumulative impacts of the proposed actions which BLM is currently considering in the three EISs.

It was not considered practical to analyze the potential cumulative impacts of the various combinations of alternatives covered in the individual EIS documents due to the sheer number of potential combinations (nor is it required by CEQ regulations).

In addition, the interactive cumulative impacts which were not considered significant and the significant impacts from the individual EISs which were not interactive cumulatively are already covered in the individual EISs. (Also see Alternatives, Response 1.)

Comment 2. This comment questioned the absence of a list of baseline projects in the CO. It also asked (1) if baseline economic projections include a revival of the uranium industry and (2) if all the baseline coal mines are counted in BLM's "no-action" leasing alternative. (485.)

Response 2. The list of baseline projects is contained in Appendix C of the NMGS DEIS. The baseline data did not include economic projections for revival of the uranium industry, but it did include the existing uranium mines before they closed down. The NMGS EIS analysis of social and economic conditions adjusted this baseline to reflect the slowdown of the uranium industry in the

area. All baseline coal mines were counted in the "no-action" alternative.

Comment 3. Several comments indicated the impacts that would likely occur if the various projects took place. These included: families moved, acreage disturbed, cultural sites removed, water quality and quantity reduced, visual blight, air pollution, increased litter, vandalism, and ORV use in wilderness areas. (35, 52, and 56.)

Response 3. All of these impacts have been identified in the EIS documents and, where interactive and cumulatively significant, were discussed in the CO. The impacts which could not feasibly be mitigated are discussed in the site-specific EISs for NMGS and SJRRCL under the heading Unavoidable Adverse Impacts.

Comment 4. The EISs and CO should discuss every issue raised in the various resolutions passed by the Navajo Chapter Houses located within the checkerboard area of the San Juan Basin. (H-118.)

Response 4. The issues are not discussed in the CO unless they would result in significant interactive cumulative impacts.

Comment 5. This comment disagreed with including the Star Lake-Bisti Railroad, Preference Right Lease Applications (PRLAs), and the Plains Electric Power Plant as part of the existing environment as assumed in the EISs. (H-117.)

Response 5. Assumptions have to be made when preparing any EIS document. It is logical to include the above within the meaning of the existing environment on the following basis: (1) the Star Lake Railway was analyzed by a separate EIS (BLM 1979) and BLM rights-of-way for this project have already been granted; (2) the PRLAs have existed since the early 1970s, and the Secretary of the Interior has little or no discretion as to whether or not to issue the leases to holders who discovered coal in commercial quantities, although it has discretion to set lease terms; and (3) the Plains Electric Power Plant is presently under construction and a part of the existing environment. In response to this and other comments, the SJRRCL EIS

has been revised to remove the PRLAs from the no-action alternative and to include them in a separate alternative. This organization makes it easier to identify the effects of the PRLA leasing. The PRLAs were not considered as part of the baseline in the NMGS EIS.

Comment 6. In Appendix 1, p. 1, paragraph 5, of the Wilderness DEIS, it was noted that some concerns voiced at the BLM scoping meetings involved broad social questions which "...though related to the issues being analyzed in the EIS, cannot be adequately addressed within the narrower limits of the proposed action." Further, these issues were not addressed in the CO despite suggestions to the contrary. This weakness points out that the present system of piecemeal legislation and designation can overlook important issues and facets of issues for lack of an appropriate forum. (520.)

Response 6. These issues are covered in separate EISs on both the NMGS and SJRRCL and the CO in order to assist decision-making. Legislative action and ultimate designation of Wilderness Areas is the responsibility of Congress following completion of the Wilderness FEIS.

Mitigation

Comment 1. Several comments stated that the "Suggested Mitigation" measures in the CO were too general, vague, grossly inadequate, or did not contain sufficient information for mitigating impacts on wilderness and other resources. (209, 460, 477, and 497.)

Response 1. The CO document contains suggested mitigation measures for those resources for which significant interactive cumulative impacts are anticipated. The site-specific EISs contain more discussion on individual resource mitigation measures. If a Wilderness Area is established by Congress, a wilderness management plan would be required which includes specific management measures to mitigate potential impacts to the wilderness.

Comment 2. It was suggested that additional stocking of fish may also be required in waters other than quality waters as indicated

in the mitigation measures of the CO. (1, 477.)

Response 2. BLM agrees that additional fish stocking may be required in other waters than the quality fish waters. Any additional stocking programs would be coordinated with and conducted by the New Mexico Department of Game and Fish (NMDG&F).

Comment 3. It was recommended that BLM coordinate the development of a recreation plan for the San Juan River to help mitigate effects to the riparian and aquatic resources. It was also suggested that mitigation be considered for the potential cumulative impacts on hunting. (477.)

Response 3. Planning for recreation as well as wildlife resources (including game animals) are considered along with other resources in the daily management of public lands and waters within the San Juan Basin. If additional emphasis needs to be placed on these programs as a result of impacts from development of the projects proposed for the Basin, necessary manpower and funding needs would be coordinated with the NMDG&F, NM Parks and Recreation Department, and other federal and state agencies as necessary to accomplish additional management needs. This could include preparation of a Recreation Management Plan for specific areas such as the San Juan River.

Procedural

Comment 1. Several comments were made regarding the lack of discussion of existing laws or lawsuits or the lack of explicit statements about spirit and intent of the laws concerning cultural resources. The laws concerned are: (1) the Navajo-Hopi Relocation Amendment Act, PL 95-306; (2) American Indian Religious Freedom Act, PL 95-341; (3) Uniform Relocation Assistance Act, PL 91-646. Similar concerns were expressed about (4) PLO-2198.

The existing lawsuits of concern in the comments are (5) the Navajo Tribe vs. United States lawsuit, filed by the Navajo Nation claiming 1.9 million acres of land in the San Juan Basin Area, Executive Order 709 and Executive Order 1000; (6) the Jicarilla

Apache lawsuit, claiming water rights in the San Juan Basin, both surface and ground water; and (7) the Star Lake Railroad lawsuit, in which the court recently remanded a decision back to the Interstate Commerce Commission that additional work is needed concerning the question of obtaining rights-of-way. (H-60, H-115, H-118, H-374, 404, 444, 478, and 524.)

Response 1.

(1) Navajo Land Selection (Navajo-Hopi Relocation)

The Navajo Tribe has made a selection of 35,000 acres of public lands (refer to Appendix A-9, SJRRCL FEIS for a list of these lands). The selection seeks both the surface and mineral estates under Section 11 of the Navajo-Hopi Relocation Amendments Act of 1980 (P.L. 96-305), which allows the Navajo Tribe to select up to 250,000 acres of public land within 18 miles of the current reservation boundary. Up to 35,000 acres of this land can be in New Mexico. The purpose of the selection is to provide a residence area for Navajos relocated from lands in Arizona as part of this settlement of a land dispute between the Hopi and Navajo Indian tribes. The selection itself is exempt from the environmental requirements of the National Environmental Policy Act of 1969. This selection is currently under active consideration, but the Department of the Interior has not yet reached a decision.

Should the selection be approved, the Navajo Tribe could allow development to proceed as proposed by PRLA holders, or the Navajo Tribe could begin an active relocation program that could delay or interfere with proposed surface coal mining operations, greatly reducing mining and its related impacts.

(2) American Indian Religious Freedom Act

The BLM has complied with the American Indian Religious Freedom Act by consulting with Native American traditional religious practitioners, attempting to identify religious sites, and considering and adopting stipulations to protect religious sites, graves, and gathering areas. Further measures still under consideration include special seeding requirements to restore or enhance the availability of herbs and plants used in religious

ceremonies. (See discussions in the SJRRCL and NMGS EISs on Native American concerns.)

(3) Uniform Relocation Assistance Act

The BLM has reviewed the possible application of the Uniform Relocation Assistance Act to these proposals. Based on Austin v. Andrus, 638 F. 2d 113 (9th Cr. 1981), the BLM has tentatively concluded that the law does not apply to coal leasing. Individual persons who move as a result of coal development retain the option of applying for these benefits.

(4) PLO 2198

Public Land Order (PLO) 2198 was issued on August 26, 1960. This order withdrew in excess of 200,000 acres in San Juan and McKinley counties from all forms of appropriation under the public land laws, including the mining and mineral leasing laws; however, PLO 3460 dated October 20, 1964, opened the land to mineral leasing. PLO 2198 provided for land consolidation program to adjust Navajo Indian land use and non-Indian land use in areas outside of and in the vicinity of the Navajo Reservation in New Mexico. Pending enactment of such legislation, the Bureau of Indian Affairs has the responsibility for administering these lands. PLO 3460 amended PLO 2198 on October 20, 1964, to allow mineral leasing.

(5) Navajo Litigation

EO 709 and 1000 are involved in a lawsuit the Navajo Tribe recently filed in the District Court for New Mexico, Navajo Tribe of Indians v. State of New Mexico, Civ. No. 83-1148-JB, in which the Tribe claims title to 2.1 million acres of land in northwest New Mexico. The suit claims virtually all the lands and minerals involving the proposed actions. If the suit is wholly successful, all the lands and interests covered by the suit would be made a part of the reservation, and title to the lands and minerals would be held in trust by the United States on behalf of the Navajo Tribe. In that case, the current proposals (such as the Preference Right Lease Issuance and competitive coal tracts and NMGS) would have to be dropped entirely.

The United States, the State of New Mexico, and others have filed motions to

dismiss the lawsuit on a number of grounds. The existence of the litigation and its possible effect on the proposed actions will be considered in the decision-making process for these proposals.

(6) Jicarilla Apache Litigation

The Jicarilla Apache Tribe has challenged the validity of a contract for the assignment of water by the Bureau of Reclamation from the San Juan River. The results of this litigation would primarily affect the water supply for NMGS. The Bureau of Reclamation has filed a motion to dismiss.

(7) Star Lake Railroad

The CO assumes the existence of the Star Lake Railroad. The building of the railroad principally affects coal development; due to a recent decision by the United States Court of Appeals for the District of Columbia, the status of the railroad is unclear. To ensure proper consideration of impacts totally or partly dependent on the railroad, the CO continues to assume its existence. If the railroad or an equivalent transportation system is not built, the expected level of coal production would decline.

Summary. Lawsuits that now exist concerning various actions or resources in the San Juan Basin are recognized to exist. These lawsuits, depending on their outcome, may or may not affect management of resources in the San Juan Basin. Speculation on these lawsuits is not within the scope of these EISs because of the uncertainty of their outcome. Due to this uncertainty, meaningful analysis is not possible.

Comment 2. The BLM should grant pending Navajo claims rather than proceeding with the Proposed Action. Nine comments indicated Navajo claims should be mentioned. These include Navajo land selection involved as part of the Navajo-Hopi Relocation Amendment Act and litigation by the Navajo Tribe claiming title to approximately 2 million acres. (H-60, H-88, 48, 49, and 310.)

Response 2. Both the NMGS EIS and the SJRRCL EIS identify potential conflicting land claims. These will also be fully considered in the decision-making process.

These proposals would continue to be processed through the normal sequence. Implementation of the existing laws would continue to receive the attention of the Department of the Interior, as would the various lawsuits and the results of such lawsuits. The rights of the Navajo people are protected by existing laws and regulations as implemented throughout the Department of the Interior and other federal and state agencies.

Comment 3. Several comments were received on the CO which questioned the procedure which allowed some resources to be discussed but which did not allow others to be discussed. The specific resources mentioned in the comments as lacking in the CO were agriculture, soils, vegetation, and wildlife. (531.)

Response 3. As stated on p. 1-7 of the DCO, "Essentially, this cumulative impact analysis re-evaluated the significance of impacts for those environmental resources with common (overlapping) spatial and temporal distribution." On the same page is the statement, "Based on a review of impacts from the three EISs, nine environmental resources were identified as having potential increases in impact significance beyond that presented in the individual EISs." The resources of agriculture, soils, vegetation, water, and wildlife were not included as part of the CO because there were no increases in the impact significance beyond that presented in the individual EISs, although total impacts have been summarized. Impacts which would occur to these resources can be found in the individual EISs and in the "Summary Table of Affected Resources Considered" in the FCO.

Comment 4. Two comments stated that the documents ignored major issues raised by the public such as Navajo land claims, and that Navajo Chapter Houses have voted to reject plans for development. In addition, the comments stated that reclamation and water were not covered. (H-167 and 52.)

Response 4. The issues raised by the public have not been ignored and will be considered in the decision-making process. Those issues, such as the lawsuits filed by the Navajo

Tribe, are not considered as environmental issues but are legal issues which will ultimately be decided in the courts. (Also refer to Procedural Response 1.) Many of the Navajo Chapter Houses have passed resolutions against proposed development such as coal mining or construction of NMGS. These resolutions are on file with the BLM and will be a part of the Record of Decision. Some of the resolutions were considered as comments, and have had responses prepared in the site-specific EISs. (For a discussion on reclamation, please refer to the SJRRCL FEIS revised reclamation section. For a discussion on water, please refer to Water Response 1.)

Comment 5. One comment considered Native Americans as an original American resource. (H-103.)

Response 5. While the EISs and the CO do not necessarily consider the Native Americans as a resource such as wildlife or air quality, the effects of the proposal on Native Americans are fully considered in each of the Draft and Final EISs and CO.

Comment 6. One comment stated the CO should include what finding was made on the PRLA Environmental Assessment (EA). (H-159.)

Response 6. The finding on the PRLA EA was made in a Decision Record which concludes that the PRLAs should be included in the SJRRCL EIS for additional analysis. A copy of the PRLA Decision Record is on file at the BLM Offices in Albuquerque, Farmington, and Santa Fe, NM.

Comment 7. One comment expressed the concern that the EISs were "technically inadequate" because they grossly ignored, as an example, impacts on water and, because the EISs were prepared by Woodward-Clyde Consultants, the EISs have no credibility since there is a clear conflict of interest. (H-132a.)

Response 7. Using the BLM third-party contracting procedures under the immediate direction of the BLM, Woodward-Clyde Consultants prepared the NMGS EIS and parts 2 and 3 (technical sections) of the DCO. Woodward-Clyde has also filed with the BLM, as part of that contracting procedure, a

disclosure statement that they have no interest in the outcome of NMGS. (Refer to the NMGS FEIS Procedural Response for additional discussion. Also, refer to the FCO section, Water Response 1, for information on impacts associated with water.)

Comment 8. Two comments referred to the list of Preparers and Contributors on p. 4-3 of the CO. One comment said that Woodward-Clyde Consultants is shown but not Adcock and Associates, Inc., a subcontractor who assisted Woodward-Clyde Consultants in preparing portions of the CO, while another comment expressed concern that the actual Woodward-Clyde personnel who prepared parts 2 and 3 are not shown. (6 and 485.)

Response 8. Please see Part 4, Changes to the Text, for Preparers and Contributors.

Comment 9. One comment requested that a specific soil survey reference be added to DCO p. R-1. (19.)

Response 9. Since there is no use of the reference specifically in the CO, the reference is not added to p. R-1. Specific references about soils when they occur are found in the site-specific EISs.

Comment 10. One comment was received which stated:

Communication with the Navajo Nation, its chapter houses and the local impacted residents has to be improved. This will facilitate solution of the complex land status and relocation problems in addition to enabling BLM and the energy companies to understand the Navajo needs and concerns and to get their full cooperation in the development activities. A programmatic Memorandum of Agreement between BLM, BIA, Navajo Tribe, State of New Mexico and National Park Service should be established to resolve and settle various common issues. (444.)

Another comment asks for the creation of a central committee. (444.)

Response 10. The BLM has been and will continue to be in communication with the

Navajo Nation, its chapter houses, and the potentially impacted residents. BLM has held many meetings with Navajo people (see SJRRCL FEIS for a list of meetings) to present ideas and information concerning proposals in the San Juan Basin area. To facilitate these discussions BLM employs two Navajo interpreters. The BLM has and will continue to consider all requests from the Navajo Nation, the chapter houses, and local residents for meetings to discuss common problems and seek an understanding and solution to those problems. A programmatic Memorandum of Agreement (MOA) that includes the BIA, Navajo Tribe, State of New Mexico, the National Park Service, and the BLM may be an approach which could be established to resolve and settle common issues. Since BLM has in the past completed MOAs, this approach will be kept in focus for future consideration. Any such agreement when developed could include provisions for a central committee and could define its membership and functions concerning energy development and resulting impacts.

Comment 11. The description of impacts, pp. 1-7 through 1-32, would be clearer if common assessment units were presented for each. (477.)

Response 11. Whenever possible, common assessment terminology was used in the preparation of the site-specific EISs and CO.

Comment 12. One comment suggested the view that since the proposed actions were directly impacting the State of New Mexico, the state "...would have been better served if responsibility for the various aspects of these documents had been delegated to the State with BLM serving as coordinator." (478.)

Response 12. Congress has delegated land management responsibilities to the BLM and these duties cannot be transferred to the State of New Mexico without Congressional approval. During preparation of the NMGS EISs various state agencies were closely involved, many as formal or informal cooperating agencies (see Chapter 4 of the NMGS EIS, Consultation and Coordination). During preparation of the SJRRCL EIS, the state was involved through participation of its San Juan River Regional Coal Team (RCT) mem-

ber representing the governor of New Mexico and through participation by the RCT ex-officio members representing specific state agencies and offices. As the many New Mexico state permits are applied for by the various applicants, the opportunity for state and public review and supplemental environmental review would be provided.

Comment 13. One comment read as follows:

Land use planning is said to be complete (1-4) but neither surface owner consultation nor unsuitability analysis is complete. This EIS does not make clear (p. 3-24) that the proposed action is to strip mine Ah-shi-sle-pah Wilderness Study Area, thus the recreational resource there will be permanently destroyed. The reference to the processing of PRLAs must refer to the Mineral Leasing Act of 1920, not to FCLAA. (1-3) (485.)

Response 13. For a complete discussion concerning land use planning mentioned on p. 1-4 of the CO and the application of unsuitability criteria, refer to the appropriate section of the SJRRCL Final EIS. While the CO is not an EIS, Table 3-6, p. 3-24, of the DCO does show that three PRLAs are within the Ah-shi-sle-pah WSA. The Ah-shi-sle-pah WSA is proposed by BLM as nonwilderness. Please refer to the SJRRCL EIS and the PRLA EA for specific discussion on impacts of mining in the Ah-shi-sle-pah WSA. The reference to the Federal Coal Leasing Amendment Act of 1976 is correctly used in that this act repealed the secretary's authority to issue or extend a coal prospecting permit on federal lands, thus ending non-competitive coal leases through PRLAs. It is correct that the Mineral Leasing Act of 1920 is the authority for processing PRLAs.

Comment 14. One comment expressed the following:

The CEQ regulations provide for "cooperating agency" and "joint lead agency" arrangements as ways of involving Federal and State agencies with relevant expertise in the writing of an EIS (1501.6(b), 1506.2(c), and other sections). The existence of a San Juan

Basin Action Plan discussion group (p. 1-3) does not suffice for input from affected federal agencies. A PNM/Sunbelt representative attended at least one meeting of this group, which seems to be a gross impropriety considering the public was not invited to these meetings. (485.)

Response 14. The CO involved other federal and state agencies during preparation as cooperating agencies. The agencies are the same as those listed for the NMGS EIS and the SJRRCL EIS. Please refer to Chapter 4, Consultation and Coordination, in both of the above-mentioned site-specific EISs for a complete list of cooperating agencies involved. The WSA EIS coordinated with the State Historic Preservation Officer and the Fish and Wildlife Service, both of which are on the list as cooperating agencies, for preparation of the CO. There were no joint lead agencies established for preparation of the site-specific EISs or the CO. The San Juan Basin Action Plan Workgroup was not intended to take the place of input from other affected agencies or the public. An extensive scoping process and public hearing schedule provided for these. Other agency input was received through both formal and informal review and consultation. The workgroup meetings were not closed to the public. Requests made by the public to attend any meeting of the workgroup were honored.

Comment 15. The following comment stated:

The planning group should be informed that consultation and coordination with the Bureau of Reclamation and the State of New Mexico State Engineer's Office would be necessary to obtain water rights on the San Juan River. The Bureau of Reclamation is proposing to conduct a salinity investigation of the San Juan River beginning in fiscal year 1985. Saline flows from industrial and agricultural areas, as well as possible natural sources, could be collected and made available to partially meet the water demands of the New Mexico Generating Station. The Bureau of Reclamation will work with the Public Service Company of New Mexico to explore this

option. (Bureau of Reclamation, Letter 505.)

Response 15. In order for PNM to obtain water rights on the San Juan River it is understood that PNM must work through the New Mexico State Engineer's Office and the Bureau of Reclamation. BLM has informed PNM of the Bureau of Reclamation's desire to explore this option.

Water

Comment 1. The CO does not have a section on water which addresses the overall cumulative impacts of the use of water needed for the proposed actions discussed in the SJRRCL EIS and the NMGS EIS. In some comments the lack of such a discussion was considered by the commenters as "under-addressed," "unacceptable," "inadequate" or "intolerable." One comment noted that the CO did not discuss the cumulative impacts of NMGS water supply Alternative 1 and major coal mine development. (H-90, H-111, H-167, H-374, 17, 38, 52, 205, 217, 269, 437, 484, 485, 488, and 497.)

Response 1. The purpose of the CO is to show potential cumulative impacts which are new (previously undefined) information when looking at the proposed actions of the three EISs. As discussed on p. 1-7 of the DCO, "based on review of impacts from the three EISs, nine environmental resources were identified as having potential significance beyond that presented in the individual EISs." Water is not one of the nine. This occurs because the NMGS proposed water source is from the San Juan River (surface water), while the SJRRCL proposed water source is from ground water within the San Juan Basin.

The sources are considered separate; therefore, the impacts which would occur are those impacts identified in the individual EISs. There would be no new impacts beyond those discussed in the site-specific EISs. Should PNM change the proposed action to use a water source other than the San Juan River, and if federal permits were necessary, additional NEPA analysis would be required.

Comment 2. Several comments questioned the legal use of the water by the proposed

actions and pointed out that both the Navajo Nation and the Jicarilla Apache Tribe have lawsuits filed regarding use of water in the San Juan Basin. (H-374, 52, and 444.)

Response 2. The existence of these lawsuits is recognized, but no attempt is made here to adjudicate or allocate water uses. The courts will decide the results of the different lawsuits filed. It is the responsibility of the State of New Mexico, State Engineer's Office, to adjudicate water within the State of New Mexico and, while the various actions proposed may identify a source of water for use, it is the State Engineer's Office which would allocate the use of water. The allocation of water is also dependent on Bureau of Reclamation decisions on water distribution from Navajo Reservoir. The existence of possible water-related problems will be considered in the decision-making process.

Comment 3. Several comments were received which questioned the availability of water to support the proposed actions. (28, 249, 253, 241, 316, and 437.)

Response 3. It is recognized that both surface- and ground-water availability is a major issue for these proposals. This issue would need to be resolved by the Bureau of Reclamation, the NM State Engineer's Office, and other parties in future permitting processes. It will also be considered in BLM's decision-making process.

Comment 4. Six comments concerned the use of data or information specifically on surface or ground water. Two comments questioned the base projection for water use, while others questioned the adequacy of analysis. (H-165, H-167, 52, 244, 437, 478, and 485.)

Response 4. The CO does not have a section on water; the reader is referred to the site-specific EISs for any changes. See the NMGS EIS for discussions concerning use of the San Juan River and the SJRRCL EIS for discussions concerning use of ground water.

Comment 5. The mining companies and PNM should be required to file water replacement

plans during the EIS process prior to BLM approval of the proposals. (437.)

Response 5. Water replacement plans, when needed, are required by the State Engineer's Office.

Comment 6. One comment suggested a rewrite of the fifth paragraph, CO p.1-5, which discusses the water requirements for NMGS. (478.)

Response 6. The paragraph has been reviewed. Since PNM's proposed water source for NMGS has not changed, the paragraph has not been revised.

Air Quality

Comment 1. Baseline for air quality is extrapolation of some industry fantasy of what might be developed. (H-165.)

Response 1. In order to do an analysis and make projections of the impacts to air quality, some assumptions were required. The assumptions made for this study are stated and are considered to be the best estimates of what would occur.

Comment 2. The EISs and the CO do not specifically deal with effects of the development within the CCNHP, except as to increased population and visual impacts. If CCNHP is designated Class I under the Clean Air Act amendments of August 1977 (Sec. 164), the emissions from the proposed NMGS would be above allowable levels. (264.)

Response 2. If CCNHP should be designated as Class I, then the analysis of air quality would need to be reevaluated using that redesignation. It is now designated as Class II.

Comment 3. A comment questions why effects from mining and power generation on regional haze are not addressed. (H-342.)

Response 3. The emissions from mines would be surface, while the emissions from NMGS would be an elevated source. These sources generally are emitted into different air layers and are not additive under normal

conditions. It is anticipated that there would be no interactive effects from coal mining and the power plant on regional haze.

Comment 4. One comment objected to the definition formulated for deciding whether increases in total suspended particulates (TSP) are significant or not. (398.)

Response 4. The ambient standards were used as levels of significance.

Comment 5. Visibility is only partially discussed. (398.)

Response 5. The CO discusses the combined impacts of NMGS and the proposed coal mines that were considered close enough to interact. The reasons visibility is not included in the CO are discussed on p. 2-3 of the DCO which explains that each of the interactions between the proposals with respect to visibility. Visibility is discussed in detail in the NMGS EIS.

Comment 6. The CO does not calculate or present values of TSP within a 1-km radius of mine boundaries. (398.)

Response 6. The TSP values for the proposed coal mines are discussed in the SJRRCL EIS and the supporting Air Quality TR. The CO TR states on p. 6-8, "Total predicted levels of TSP in excess of the annual New Mexico standard (60 ug/m³) were indicated in a small area within 2 km from a mine boundary."

Comment 7. CO does not state that mitigating measures will be carried out. (398.)

Response 7. Mitigation is discussed on p. 3-7 of the CO. Specific mitigation would be developed at the mine plan stage or prior to issuance of a Notice to Proceed for NMGS ROWs. Requiring mitigation not included in the proposed action is an option available to the decision maker after the EIS process is complete.

Comment 8. The cumulative impact study does not consider impacts due to other

mining activities already present. Specific mitigative measures for air pollution are not fully discussed. (444.)

Response 8. Emissions from existing activities are considered as part of the baseline. Other activities are discussed in the NMGS EIS. See response to Comment 7 above on mitigation.

Comment 9. The discussion of air quality (DCO, pp. 3-1 and following) gives results rather than assumptions and methods, and its reference to a PRLA mine on p. 3-3 is not understandable. The CO TR is not much more enlightening.

The air quality section fails to discuss or refer to any synergistic interactions between SO_x and particulates or between SO_x and NO_x. It fails to consider increased vehicular traffic as a source of pollution, and its impacts on visibility. This would seem to be especially important in the Farmington area. According to the NMGS DEIS (p. 3-3), parts of northern San Juan County are non-attainment areas for SO₂. It is contrary to good sense to assert that NMGS would not contribute to regional haze in the immediate vicinity of the plant, but only at long distances. Finally, the coal EIS did find that 24-hour standards for particulates would be violated in some coal mine areas from coal mine emissions alone, and this CO fails to explain whether this is consistent with the analysis here. (485.)

Response 9. See response to Comment 6 on interactive effects. Coal mine areas that may exceed standards are very local. Areas of combined impacts are discussed in the SJRRCL. (Also see Air Quality Response 14 below.)

Comment 10. One comment stated the DCO identified that a violation of TSP standards existed but did not address how this could legally be done or how it could be mitigated. (486.)

Response 10. The impacts identified as a violation of TSP standards would not be

allowed to occur. Mitigation measures for TSP are discussed in the section on air quality, p. 3-7 of the DCO.

Comment 11. Synergistic effects between air pollutants must be considered and are not. (488.)

Response 11. As stated on p. 1-7, the CO discusses combinations of impacts that are the result of interaction between the separate proposed actions in the three EISs. The CO on p. 2-1 explains that the cumulative impact from coal mining and NMGS is limited to TSP, since it is the only significant air pollutant from mining activity.

Comment 12. The coal EIS states that PSD review is not required because surface mines rarely emit greater than 250 tons/year. The CO, however, shows most mine emissions in excess of that figure. (488.)

Response 12. The 250 tons/year level for a PSD permit does not include fugitive emissions according to EPA's regulations on PSD, where as the analysis does include fugitive emissions as part of the baseline.

Comment 13. The study areas for air quality and visual resources, p. 1-31, are too limited. Regional haze, by definition, extends beyond 12.5 km from NMGS. Most viewing occurs not from "key viewing points," but from dwellings and roads. (488.)

Response 13. The 12.5 km was considered the distance at which the maximum interaction would occur, and is unrelated to regional haze. The evaluation shows no significant cumulative effect on regional haze from combined NMGS and SJRRCL. Key viewing points were chosen to give a representative analysis of likely local effects.

Comment 14. Consideration of the cumulative effects of the individual proposals on air quality is severely deficient. The discussion of air quality fails to analyze the interactive effects between SO₂ and particulates or between SO₂ and NO_x. Further, it fails to consider increased vehicular traffic as a source of CO, NO_x, and particulates. Additionally, the SJRRCL EIS found that the New Mexico 24-hour standard for total sus-

pending particulates would be violated in some coal mine areas by up to 84 ug/m³. The CO does not clearly indicate how much this would increase due to the NMGS nor does it indicate where these violations would occur. The most precise description of when the TSP standard would be violated is given on p. 3-2, where it is stated that it "may occur in a worst-case situation in which a PRLA mine is located close to another mine." (497.)

Response 14. See Response to Comment 6 on interactive effects. The increase to CO (carbon monoxide) and NO_x from vehicles was considered in the SJRRCL EIS and determined to be insignificant and, therefore, was not looked at as a cumulative impact. The CO discusses the combined impacts on p. 3-2.

Noise

Comment 1. The comment discussed the information presented on p. 3-7, paragraph 4, of the CO and reminded the BLM of four items: (a) employees using the WSAs are presumably not at work and, therefore, not "employees" at that time; (b) non-project-related persons will be using the Wilderness Areas; (c) BLM wilderness criteria do not attempt to identify one type of recipient of impacts which compromise the primitive character of the designated area as more tolerant of the diminished wilderness experience than another; and (d) it has as yet inadequate information on short-duration blasts, blast frequency, and blast location. (520.)

Response 1. It is not intended that the employees would be working on the job when they are using the WSAs, and it is expected that non-project-related persons would also be using the WSAs. It is recognized that this section does not separate into types the various recipients of impacts nor was it attempted to predict how individuals would respond to the perceived noise impacts. What is presented is possible impacts which could be expected to occur within the WSAs should NMGS and coal mining occur together. Considered in this analysis were automobile traffic noise, haul-truck noise, and blasting. Specific information on short-duration blasts, blast frequency, and blast

location are only available when specific mining plans are developed.

Cultural Resources

Comment 1. Separate cultural and paleontological resources, as they are covered by separate statutory authority. (209.)

Response 1. Cultural and paleontological resources are covered by separate statutory authority. They are grouped together in the CO because they are subject to the same types of cumulative impacts, i.e., indirect due to population increases and can often be treated by similar mitigating measures.

Comment 2. The words intensive and reconnaissance are mutually exclusive (p. 2-12). See BLM Manual for definitions of Class I, II, and III. (209.)

Response 2. Page 2-12 of the DCO has been changed from "reconnaissance" to "survey" in paragraph 2. (See the Changes to the Text section.)

Comment 3. Use the definition of cultural resources from Chapter 8111 of BLM Manual, and add the definition of prehistoric resources. (209.)

Response 3. See the Changes to the Text section, Glossary, for definitions of "cultural resources" and "prehistoric."

Comment 4. It is not made clear in the CO that the locations of cultural resource sites have been taken into account. (232.)

Response 4. Locations of actual cultural resources sites have been considered during the EIS process for each of the specific projects which have been proposed. Site-specific information on cultural resources is normally not included in EISs in order to protect the resource; however, this information is on file in the Albuquerque District Office and is available to qualified professionals.

Comment 5. Three comments were received which stated that the CO does not adequately address the preservation and reclamation of the Anasazi Indian ruins, or that the proposed

plan for identifying, evaluating, and managing cultural resources affected by proposed projects is inadequate. The CO does not commit BLM to specific measures to mitigate cultural resource losses, nor does it define a planning process for such specific measures. (264, 408, 488.)

Response 5. Strategies for dealing with cultural resources which would be directly affected by the proposed actions are discussed in the individual EISs. Cultural resources on public land which would not be impacted directly receive attention through the overall cultural resources program, which includes monitoring and patrol of key sites, posting of antiquities signs to reduce vandalism, public education, and synthesis of cultural resources information.

Comment 6. The CO does not mention possible impact to the Solstice Calendar. (264.)

Response 6. No impact to the Solstice Calendar on Fajada Butte is anticipated.

Comment 7. Documents lack detail on how all legal requirements for cultural resources would be met. (355.)

Response 7. Compliance with legal requirements for each proposed action is included in the site-specific EISs. The CO itself does not document requirements for a particular proposal.

Comment 8. Two similar comments were received which stated that all cultural systems in the basin must receive equal consideration, not just a select few, and sites must also be identified by type, not just by cultural affiliation. (355.)

Response 8. Each known archeological site which would be directly impacted by projects proposed would receive consideration through the Section 106 process. Discussions in the EISs emphasize archeological sites which would be significantly affected by the proposed actions; however, this does not mean that detailed site characteristics of all types of sites have not been considered in the environmental analysis process.

Comment 9. The suggestion is made that the New Mexico Archeological Council (NMAC) would welcome more opportunity for participation in the cultural resource management structure and that all undertakings having an impact on cultural resources should be reviewed by the NMAC. (429, 460.)

Response 9. The NMAC receives all public mailings pertaining to BLM undertakings, as do most individual members of NMAC. In addition, BLM employees address NMAC meetings from time to time to apprise the membership of projects and issues which may affect cultural resources. The BLM appreciates the assistance which NMAC has provided on various matters in the past and looks forward to its continued involvement.

Comment 10. Impacts to cultural, paleontological, and archeological resources were not adequately described and mitigating measures are inadequate. An additional comment stated that the discussions on impacts to the cultural environment and social and economic factors are general and diffuse. (444, 449, 531.)

Response 10. Specific discussion of direct impacts to cultural resources and social and economic factors can be found in the site-specific EISs. The level of discussion about indirect impacts reflects the best available information; more detailed information is not essential to the decision-making process.

Comment 11. Site type and significance criteria are not sufficiently addressed. (449.)

Response 11. Site type and significance received detailed consideration in technical documents written in connection with specific projects (e.g., Hase et al. 1978; Kemrer 1982; Kincaid et al. 1983; Acklen et al. 1983). Individual sites are screened against this body of information through consultations required under Section 106 of the National Historic Preservation Act.

Comment 12. The culture and history of the area are dealt with in an over-simplified and uneven manner. (449.)

Response 12. Recent syntheses of the cultural history are included and referenced in

the CO Technical Report (i.e., Kemrer 1982; Stuart and Gauthier 1981).

Comment 13. National Register criteria are not addressed. (449.)

Response 13. National Register criteria can be found in 36 CFR 60.6 and are discussed in the CO Technical Report (pp. 2-9 and 2-12). Individual sites which would be directly affected by the proposals are compared to the criteria through the consultations required for each project under Section 106 of the National Historic Preservation Act.

Comment 14. The Draft CO does not reveal the exact proportion of the acreage that has been inventoried by pedestrian survey methods. (449.)

Response 14. Proportions of potential project areas which have been inventoried by pedestrian survey are presented in the site-specific EISs. Overall, Stuart and Gauthier (1981) estimate that, as of 1979, about 4 percent of the San Juan Basin as a whole had been intensively inventoried.

Comment 15. The validity of the predictive model has not been discussed. (449.)

Response 15. The predictive model developed to assess coal leasing (Kemrer 1981) is based upon the best available information and upon carefully developed procedures.

Comment 16. Overall research design for cultural resources should be formulated. (449.)

Response 16. The New Mexico State Historic Preservation Bureau (Stuart and Gauthier 1981) has formulated an overall statement of research issues for the San Juan Basin which has been used in assessing how to mitigate effects on cultural resources. New assessments of research needs and priorities will be needed periodically, as collective knowledge of the region grows.

Comment 17. Two similar comments were received concerning information in cultural resources, Part 2 of the CO. One statement said that "...part 2, Affected Environment needs to be amended (pg. 2-9). It sounds as

though it were written by someone who does not have a feeling for the area" (Earl Neller letter 56). Another statement said, "This discussion of the regionally important cultural resource environment stresses legal significance. It would enhance the section to include a brief, nonlegal discussion of the relative importance of the affected resources that might be more meaningful to the lay public and decision makers. For example, the parallel section on paleontological resources on pg. 2-9 does a creditable job in this realm of presentation" (National Park Service letter 498). (460, 498.)

Response 17. More detailed information can be found in the San Juan Basin Cumulative Overview Technical Report and the site-specific EISs.

Comment 18. All undertakings having an impact on cultural resources should be reviewed by the State Historic Preservation Officer (SHPO). (460.)

Response 18. Compliance with Section 106 of the Historic Preservation Act, including SHPO consultations, would be completed for each of the proposed actions.

Comment 19. The BLM should require a 1-kilometer buffer zone beyond the direct impact zone for cultural resources. (460.)

Response 19. Appropriate buffer zone width would vary according to the proposed activity or action. For example, for an action which involves no disturbance, such as a land exchange, the BLM normally would not require an archeological survey of a buffer zone. For a small-scale action such as a well pad, the BLM would require a 50-foot buffer. Appropriate buffer zone width for strip mining would be determined by the Office of Surface Mining (OSM) in consultation with the BLM and SHPO at the mine plan stage.

Comment 20. Map 2-4, p. 2-13, should be amended to delete the Chacoan Road which is shown going to the southeast through the Lee Ranch West tract. Recent BLM research has indicated that this road does not in fact exist. (470.)

Response 20. Deleted on map - see the section on Changes to the Text.

Comment 21. Table 2-3, p. 2-15, indicates that a Chacoan outlier exists on the Lee Ranch East tract, and reference is made to p. 2-49 of the SJRRCL EIS. No Chacoan outlier is known on the Lee Ranch East tract, nor is reference made to this outlier on p. 2-49 of the Draft EIS. Similar comments were made for the Lee Ranch Middle tract and the Divide tract. (470.)

Response 21. These statements have been corrected. See the section on Changes to the Text.

Comment 22. Another significant omission in the CO is the absence in the discussion of the effects on cultural resources of consequences to the Native people who continue to use the area. (497.)

Response 22. Effects discussed on pp. 3-10 through 3-12 do apply to cultural resources that are important to Native people. Also refer to the discussion concerning Native Americans in the site-specific EISs and the TRs for NMGS and CO.

Comment 23. Page 1-20, Table 1-6, which summarizes potential impacts for the NMGS action has no cultural resource section. (498, 531.)

Response 23. Please refer to NMGS Comments and Responses section, Cultural Resources.

Comment 24. If the policy of inventories for cultural resources is to be followed, it should be stated in both the SJRRCL EIS and the CO. (478.)

Response 24. The Federal Coal Management Program Programmatic Memorandum of Agreement requires intensive field inventories of those portions of a coal lease which may be affected by lease-related activities. These inventories are to be conducted as part of the mine plan preparation prior to any disturbance and are to provide a basis for specific mitigating measures in the mine

plan. (Also see Appendix I [coal lease form] of the SJRRCL FEIS.) Intensive inventories will also be conducted before any ROWs would be granted for NMGS, or before authorizing action is taken on making land available for NMGS.

Comment 25. A stipulation should be placed on leases providing for a public education program to explain the values of cultural resources. (478.)

Response 25. Public education is a responsibility of the agencies charged with protecting cultural resources and a responsibility of the anthropological community itself. BLM personnel are available for public education presentations. No stipulation is planned for inclusion in any lease.

Comment 26. Large Chacoan outliers would suffer indirect impacts as a result of increased population. Similar comments were made about cultural resources in general, particularly in relation to the possible New Town. (355, 469.)

Response 26. Pages 3-12 and 3-13 of the DCO address this problem and suggest mitigation measures.

Comment 27. A comment asked that BLM point out that all cultural resources on federal, state, and Tribal lands in New Mexico are protected by laws. See the Cultural Resources TR, p. 2. (478.)

Response 27. All cultural resources on federal, state, and Tribal lands are protected by law. Statutes are addressed more fully in the CO Technical Report, pp. 2-6 and 2-8.

Comment 28. The BLM should: (1) hire sufficient staff to protect archeological sites from vandalism; (2) renew its program to study and stabilize archeological sites; and (3) BLM's ruins stabilization program should include the restoration and reconstruction of selected ruins. (460.)

Response 28. Patrol and stabilization are aspects of the BLM's Cultural Resource Management Program. In the 1983 fiscal year approximately \$28,500 was allocated for cultural resource management in the Farmington Resource Area, where cumulative

effects are anticipated. Of this total, \$11,000 was budgeted for patrol and monitoring. No new stabilization was proposed in the 1983 budget and BLM anticipates little funding for this activity in the near future; however, emergency stabilization and maintenance of existing projects may occur.

Comment 29. It was suggested that the BLM begin a publishing program to make available the results of archeological studies. (460.)

Response 29. Such a program is underway. In 1982 the BLM published results of two Class II inventories (Kemrer 1982; Dulaney 1982). In 1983 the BLM plans to publish the results of the BLM Chaco Roads Project.

Comment 30. The BLM should ensure that no archeological site be destroyed without proper archeological excavation. (460.)

Response 30. It is BLM policy that cultural resources survey and mitigation should precede surface-disturbing activity. Decisions on these matters include consideration of the relative scientific and heritage value of the sites which are affected, and involve consultation with the SHPO. Cumulative effects would probably include actions for which BLM would be responsible. For other activities, such as coal mining, the OSM would assume lead responsibility.

Comment 31. Page 1-2, Map 1-1. This map shows two of the outlying segments of Chaco Culture National Historical Park: Pueblo Pintado and Kin Bineola. However, the Kin Ya'a segment is not shown. This omission should be corrected. The same omission is evident in Maps 2-1 and 2-13. (498.)

Response 31. In checking several copies of the CO Maps 1-1, 2-1, and the map on p. 2-13, the location of Kin Ya'a segment is shown; however, for some reason the printing is very faint and the darkened area did not show up on the map, probably due to its small size.

Paleontology

Comment 1. The following quote from the CO is inaccurate:

Paleontological resources consist of some of the richest and most extensive

fossiliferous beds in the country; and are considered to be of international importance. Together, the cultural and paleontological resources compose a huge, coherent body of information that is unusual for its abundance, regional extension, and temporal depth (pg. 2-7). (28.)

Response 1. This is a factual statement and is accepted by a majority of the professional community whose interests are primarily scientific.

Comment 2. The following quote from the CO is inaccurate:

The San Juan Basin contains a 14,000-foot thickness of sedimentary rocks that were deposited sporadically over the last 600 million years. Most of the geological formations occurring in the Basin contain fossils, and a number of the formations are quite richly fossiliferous. A wide variety of ancient depositional environments is represented there and a huge diversity of fossils has been collected, ranging from microscopic plants and marine organisms to 80-foot-long dinosaurs (pg. 2-9). (28, 478.)

Response 2. Dr. Donald E. Wolberg wrote in Geologic Review and Comments on BLM Documents Related to the San Juan Basin, New Mexico, "The San Juan Basin of northwestern New Mexico and southwestern Colorado is an asymmetric structural basin or depression that contains a sequence of sedimentary rocks that is as much as 15,000 feet thick."

"14,000 feet thick" falls within the range of "as much as 15,000 feet thick." The two NMBM&MR documents seem to contradict each other. In addition, a diversity of fossils is found in the San Juan Basin, from microscopic plants and marine organisms to 80-foot-long dinosaurs. Although it is true that the specimen of the large sauropod is incomplete, the elements (several vertebrae, parts of the pelvic girdle, and skull fragments) are of a single individual and can be considered a potentially significant specimen.

Comment 3. Table 2-2 in the DCO is inaccurate. (28.)

Response 3. Table 2-2 may be inaccurate if known occurrences of mammals are restricted to those being within the boundaries of the San Juan Basin. However, mammals are known to occur in the Morrison Formation just north in Colorado (Clemens et al. 1979). Although it would be accurate to state that mammals are not known from the Morrison Formation in New Mexico, it is just as accurate to assume that they could be present, given the evidence of their occurrences in the Morrison from Colorado to Montana.

Comment 4. The following quote from the CO is inaccurate:

Many significant paleontological localities have been identified in all three WSAs, and the area is the focus of international paleontological research. The world reference section for paleontological magnetic stratigraphy is within the De-na-zin WSA, with many exposures marking the transition between the dinosaur-dominated Fruitland/Kirtland formations and the upper Ojo Alamo and Nacimiento mammalian-bearing formations (p. 2-14). (28.)

Response 4. The world reference section for paleontological magnetic stratigraphy is not within the De-na-zin WSA. See Changes to the Text, Part 2.

Comment 5. This comment stated:

Let's look at this analysis (again). The Cumulative Overview (CO) is concerned with the use of Federal (Public) lands and their disposition as related to wilderness designation or coal development (including power generated from coal). As such, the basic questions are:

1. Should the lands in question be designated wilderness?
2. What are the impacts on paleontology if coal is developed?

Addressing question (2) first, it seems more reasonable to restrict potential impact assessment to rock units that will be mined. Although mineable coal in the San Juan Basin occurs in units other than the Fruitland Formation, the

vast preponderance of New Mexico's coal is a Fruitland Formation phenomenon (85-90 percent of total New Mexico coal). It is an economic fact that hindering, for whatever reason, the development of Fruitland coal resources will impede the development of New Mexico's coal industry and the State's economic welfare. There can be no confusion about this point.

Therefore, it is something of a mystery why all the nonessential geological and paleontological gobbly-gook is interposed in the CO document. Would it not have been more reasonable to incorporate only Fruitland-related material and discussion? It is also disturbing to read numerous mis-statements of fact, some of which are found in the above quotations. (28.)

Response 5. The impacts of coal development, directly and indirectly, on paleontology are addressed and discussed in the Draft CO quite comprehensively (see pp. 1-17, 1-20, 1-28, 1-31, 2-12, 2-14, 2-15, 2-16, 2-17, and 2-18). The question concerning wilderness designation will be decided by Congress.

Although it is true that only a small percentage of these have questionable potential for significant fossils within the surface exposures overlying these tracts, there would inevitably be surface disturbance indirectly related to these activities. There is a potential for impact on fossil material in these tracts and there could be some mitigative steps taken. These impacts would range from an influx of population with concomitant settlement facilities near or adjacent to areas of potential significance not threatened by surface mining, to access roads and mining facilities on or near these areas of sensitivity. Aside from the direct impacts of mining development in an area, the direct and indirect impacts on the surrounding area would be just as profound. Some are good, some are bad, but it would be unreasonable to restrict potential impact assessment only to rock units that would be mined.

It is recognized that hinderance to development of the Fruitland coal resource

could impede the development of New Mexico's coal industry.

Comment 6. This comment states:

First, a bit of stratigraphy. The Fruitland Formation overlies the Pictured Cliffs Sandstone, which in turn overlies the Lewis Shale. The Fruitland itself underlies the Kirtland Shale, which in turn underlies the Ojo Alamo Sandstone. The Ojo Alamo underlies the Nacimiento Formation which underlies the San Jose Formation. Now, BLM "public" documents would lead the non-initiated reader to assume that this stratigraphic sequence represents a complete, unbroken record of rocks and time documenting the transition from the end of the "age of dinosaurs" to the "age of mammals." This is simply not the case. Much argument has and still continues to be centered on the "completeness" of the Cretaceous-Tertiary record in the San Juan Basin. Hiatuses of some magnitude exist or have been suggested to lie within the Kirtland; above and between the Kirtland and Ojo Alamo; within and above the Ojo Alamo and Nacimiento and between the Nacimiento and the San Jose. The most recent dispute over the "transition" from Cretaceous to Tertiary, interestingly enough, involved those maintaining that a complete record exists (Lindsay and Butler, University of Arizona) and those maintaining that a transition is not documented in the San Juan Basin, and that in fact the latest Cretaceous is not even found in the Basin (Rigby and others). Rigby was BLM's own vertebrate paleontologist and spent a good deal of his time at BLM attempting to "shoot down" the ideas generated by the Arizona School.

In point of fact, there is a very real technical debate still on-going over what the rock unit terms, Fruitland, Kirtland, and Ojo Alamo actually mean! (28.)

Response 6. Although it is true that much argument has and continues to be centered on the "completeness" of the Cretaceous-Tertiary record in the San Juan Basin, it still

contains an almost unparalleled record of rocks documenting, for the most part, what is now referred to as the transition of dinosaur-dominated communities. Nowhere in the BLM public documents is it asserted that the stratigraphic sequence represents a complete, unbroken record of rocks and time. The rock unit terms Fruitland, Kirtland, and Ojo Alamo are defined and accepted by the U.S. Geologic Survey.

Comment 7. This comment stated:

It is a matter of fact that kinds of animals (dinosaurs and mammals) commonly taken by paleontologists to indicate latest Cretaceous or earliest Paleocene (earliest Tertiary) are not known to occur in the San Juan Basin. The fossil record in Wyoming and Montana much better documents this rock-and-time interval. (28.)

Response 7. Please refer to Paleontology Response 11.

Comment 8. This comment stated:

All of the above argument would be extraneous if the CO document dealt with coal development in a reasonable way. If the document was reasonable, it would be concerned with the Fruitland Formation, mainly. After all, the Fruitland contains the coal, and Fruitland fossils do not bear on the Cretaceous-Tertiary transition. Moreover, most of the coal in the Fruitland lies in the lower-half of the formation anyway and the lower Fruitland is not very rich in fossils. But the document is rather misleading. (28.)

Response 8. The Fruitland-Kirtland sequence itself has been the center of debate since Max Bauer named and described it in 1916. Since then geologists have used several criteria to separate the Kirtland and the Fruitland (see Bauer 1916; Reeside 1924; Dane 1936; Barnes 1953; Fassett and Hinds 1971; Lindsay et al. 1981; O'Sullivan et al. 1972; Scott et al. 1979; and Hutchison 1981). The contact between the lower shale member of the Kirtland and the Fruitland Formation still remains imprecise, although many

boundaries have been suggested (Robison, Hunt, and Wolberg 1982). Nearly all oil-company geologists and geologic consultants in the Four Corners area now place the top of the Fruitland at the top of the highest coal bed or carbonaceous shale bed, and most workers use this criterion (Fassett and Hinds 1971). However, this is an arbitrary designation, thus allowing some degree of latitude for the interpretation of the Fruitland-Kirtland contact.

Since, in general, there is a disagreement as to the placement of the Campanian-Maestrichtian boundary in western North America (as well as in Europe), and since biostratigraphic and stratigraphic evidence indicates that the Kirtland shale is mostly of late Campanian age although it probably, in its upper part, is as young as early Maestrichtian (Gilmore 1916, 1935; Knowlton 1917; Stanton 1917; Baltz, Ash, and Anderson 1966; Powell 1973; Tschudy 1973; Lucas and Schoch 1982), any thoroughly comprehensive discussion on the Cretaceous-Tertiary transition must include the Fruitland-Kirtland sequence because the documented faunal and floral record indicates their very close (and relevant) relationship in time and space to the Cretaceous-Tertiary problem.

In 1966, Bill Clemens of the University of California, Berkeley, collected mammalian fossils from the upper part of the Fruitland and the lower part of the Kirtland at about a dozen localities in the San Juan Basin (Fassett and Hind 1971; personal communication 1981). The best collections were made from the Hunter Wash, Bisti area, and Clemens' preliminary findings were that the collections made at the different sites were samples of one faunal unit. In what is reported to be the first substantial paleobotanic study of new Fruitland and Kirtland plant fossils in more than 65 years, Robinson, Hunt, and Wolberg (1982) reported a new leaf locality found in "the Fruitland-Kirtland sequence." Their findings were that, based on published studies, Fruitland and Kirtland floras are inseparable, and that the new locality described in their report "represents by far the largest sample of a local flora yet described." (See Knowlton 1917; Lee 1917; O'Sullivan et al. 1972; Kues et al. 1977; Tidwell et al. 1981.)

The Fruitland Formation is pivotal in a much greater correlation than just its relationship to the Cretaceous-Tertiary boundary. The Fruitland Formation-Pictured Cliffs Sandstone-Lewis Shale regression in the San Juan Basin is part of a much larger paleogeographic story of Late Cretaceous transgressions and regressions in the Western Interior.

Similarly, the Fruitland-Kirtland sequence and its relationship to the questionable unconformity above it and the overlying Tertiary deposits provide significant information about the paleogeographic, paleoecological, and paleogeological factors that played a part in the transition from dominance of communities by dinosaurs to dominance by mammals. So far, it has not been demonstrated adequately that this transition was abrupt, or catastrophic. Thus, it is unrealistic not to investigate all the alternatives, one of which is the gradual extinction of certain dinosaurs and the subsequent adaptive radiation of mammalian forms over a period of several million years.

The Fruitland-Kirtland Formation does not contain the record of the abrupt change (if that is what it was) from dinosaurs to mammals; however, it does contain significant data and evidence about what might have caused this relatively sudden shift from one faunal type to another. To investigate the factors which led to the demise of the dinosaur communities, it is necessary to look at the Fruitland-Kirtland sequence; to research the factors involving the almost explosive adaptive radiation of the early mammalian fauna, it is necessary to look at the early and middle Paleocene Nacimiento Formation in addition to a correlation of the evidence and data gathered during preceding time stratigraphic sediments (i.e., Fruitland/Kirtland Formation).

Comment 9. This comment stated:

Other matters of fact may be of interest. Table 2-2, pg. 2-11, notes that the Jurassic Morrison Formation in the study area (the San Juan Basin) contains dinosaurs and mammals. It is certainly

true that the Morrison Formation in New Mexico has produced dinosaurs, including remains of a brontosaurus that in life may have been 80 feet long. However, despite the note (on pg. 2-9) of "80-foot-long dinosaurs," the New Mexico brontosaurus consisted of some isolated vertebrae and other scraps, hardly a complete specimen. More importantly, Jurassic mammals are not known from the Morrison Formation in New Mexico. Besides, the Morrison has nothing to do with coal development. (28.)

Response 9. Please refer to Paleontology Response 3.

Comment 10. This comment stated:

Further in the table, mention is made of Ojo Alamo mammals. It is most probable that the only report of mammals from the Ojo Alamo actually was erroneous. The fossils in question most likely were from the Nacimiento. But again, this "problem" has nothing to do with coal development. (28.)

Response 10. The occurrence of mammals in the Ojo Alamo Sandstone has been documented (Rigby and Lucas 1977; Lucas et al., eds., 1981).

Comment 11. This comment stated:

#1) A lengthy quote from a recent text is presented on pg. 2-9. We could argue the inherent inaccuracy of this quote at length but prefer to direct attention to the usage of three land mammal ages, Puercan, Torrejonian and Tiffanian. Not only do these have nothing to do with coal development, the type area for the Tiffanian, although in the San Juan Basin, is not even in New Mexico but is in Colorado!

#2) We now know that the Puercan is not the earliest Tertiary mammal age, an earlier mammal age, the Mantuan, is documented in Montana. Similarly, we now know that the Tiffanian was succeeded by another mammal age, the Clarkforkian, also not present in New Mexico.

#3) Thus, the New Mexico record can be seen to be anything but complete. Less than accurate statements such as on pg. 2-14, suggesting that the "world reference section for paleontological magnetic stratigraphy is within the De-na-zin WSA, with many exposures marking the transition between the dinosaur-dominated Fruitland/Kirtland formations and the upper Ojo Alamo and Nacimiento mammalian-bearing formations" are very misleading. True, University of Arizona scientists have done yeoman research on the magnetostratigraphy of the area, but even they would hesitate to designate their efforts as a "world reference section." Magnetostratigraphic correlations are made to complete deep sea sections and, in addition, BLM's own paleontologist, Rigby (and others), expended great effort to dispute the validity of the completeness of the De-na-zin section. In addition, as noted above, mammals have yet to be demonstrated as occurring in the Ojo Alamo. BLM seems to be overly selective in its use of data.

#4) The Late Cretaceous is represented in the San Juan Basin. But the record is more complete in Montana, Wyoming, Alberta, Italy, the Gulf coast, in the Raton Basin and probably at Truth or Consequences, and many other places. It is really not the place that's important, but the kinds of questions asked.

#5) There are dinosaurs in the San Juan Basin (and at Truth or Consequences as well) but better specimens have been found in Utah, Texas, Wyoming, Montana, Colorado, Canada, and elsewhere. We must view our fossils and our coal in the proper perspective. Development of one "resource" does not exclude proper care of the other; efforts must be balanced.

#6) We believe that the ideas and programs arrived at through these efforts offer a reasonable means of insuring adequate paleontological mitigation while allowing the development of coal resources to proceed. It seems to us that BLM has not taken cognizance of these on-going developments within New Mexico related to the initiation of a workable mitigation program in the CO document. (28.)

Response 11. Paragraph #1 is irrelevant to the quote cited.

Paragraph #2 - the "Mantuan" was proposed as a land-mammal age but did not properly represent a "stage-age" (see American Code of Stratigraphic Nomenclature). Few, if any, experts on early Paleocene mammals have been willing to use "Mantuan" as a land-mammal age of equal status with "Puercan" (see, for example, Archibald 1982, University of California publication in Geological Science). Therefore, the Puercan is still believed by the majority to be the earliest Tertiary mammal age. Similarly, there is no way to know that the Clarkforkian is not present in New Mexico.

Paragraph #3 - see Paleontology Response 5.

Paragraph #4 is inaccurate. First, the kind of record is not offered (whether it is stratigraphic or biostratigraphic). Second, the record is different in different places. Third, there are few, if any, known vertebrate fossils from the Raton Basin, and the Truth or Consequences area is only slightly better.

Paragraph #5 makes an unqualified claim that there are better specimens found elsewhere. There have not been any specimens of Pentaceratops found outside of the San Juan Basin, nor better ones of Alamosaurus nor of Kritosaurus, nor has there been better associative data recovered in context with these specimens anywhere.

Paragraph #6 - The BLM has been and will continue to be developing mitigation suitable to the particular situation to avoid or reduce impacts to the paleontological resource. Please refer to the Final SJRRCL EIS for the mitigation measure referring to paleontological resources.

Comment 12. Specific comments. Page 2-3 (Table 2-1) and throughout text. We recommend separating cultural and paleontological resources since separate authority for cultural and paleontological resources has existed since the enactment of the Archeological Resources Protection Act of 1979 precedent for the action. (209.)

Response 12. It is true that cultural and paleontological resources are covered by separate statutory authority. They are grouped together in the CO because they are

subject to the same types of cumulative impacts, and can often be treated by similar mitigating measures.

Comment 13. Urges that paleontological inventories be undertaken. (232.)

Response 13. Paleontological inventories would be conducted as regulations and budgetary constraints permit.

Comment 14. Impact on Cultural, Paleontological, and Archeological Resources - Survey and inventory of historic places, grave sites, gathering areas, offering points, sacred sites, fossil reserves, and other archeological sites have not yet been completed and all the locations are not known. It is believed that approximately 250,000 cultural and archeological sites spanning 10,000 years of occupation are present in this basin which include the famous Chacoan Phenomenon (some 70 scattered communities, remains of what is believed to be one of the most advanced prehistoric cultures in the United States), the Chaco Roads and CCNHP. The fossil deposits of this basin cover the evolution of land animals through the critical period covering the extinction of dinosaurs and the first widespread propagation of mammals. The fossil resources have received worldwide attention while the three wilderness areas present in this Basin contain certain geologic features noted for the mushroom-shaped rock formations, pinnacles and spires that create a "moonscape" appearance. Throughout the Basin there are various herbs which are used by Navajo medicinemen for medical and religious purposes. The land is also used for sightseeing, collecting, hiking, photography and other recreational purposes by tourists and local Navajos. Details of salvage, recovery and preservation plan, relocation of sacred and grave sites, mitigation plan, restoration plan, etc., have neither been worked out nor clearly defined. Whether this responsibility will be carried out is at the mercy of mining and energy companies that may not have much concern or regard for these resources and Navajo values. Cultural significance of certain special wildlife species and special interest plants has also not been mentioned in the BLM documents. (444.)

Response 14. Impacts are discussed on pp. 1-17, 1-20, 1-28, 1-31, 2-12, 2-14, 2-15, 2-16, 2-17, and 2-18 of the CO. Mitigation is also discussed on pp. 3-10 to 3-13 of the CO. It is unrealistic to expect that all of the fossil localities will be known. Due to the nature of the deposition and erosion of these areas, a literal count of localities or occurrences cannot be made.

Comment 15. The comment states that: (1) the Draft San Juan Basin Cumulative Overview repeats many of the errors of the documents noted above. Table 2-2, p. 2-11, (Appendix XI) purports to be a "Summary of Geology and Paleontology of Study Area." However, this table bears little relation to Map 2-3, (Appendix XII) "Generalized Map of Bedrock in San Juan Basin." Table 2-2 contains units not shown on Map 2-3; (2) Map 2-3 is not a complete map of the San Juan Basin and is basically a reproduced portion of the New Mexico Geologic Map; (3) Table 2-2 is upside down! Older units are at the top, younger units at the bottom; (4) the Nacimiento Formation is Early to Middle Paleocene, not "Early to Middle Paleozoic"; (5) no turtles, archosaurs or mammals are known from the Ojo Alamo Sandstone; (6) no mammals are known from the Jurassic Morrison Formation of New Mexico; (7) the San Jose Formation is shown on Map 2-3 but is not on Table 2-2; and (8) the fossils listed, when accurately reported, are not known from throughout the extent of the rock units but are more frequently very localized in occurrence. Thus, "snakes" in the Fruitland Formation should actually read, "isolated snake vertebrae from one locality." (478.)

Response 15. Responses are listed in the same order as shown in the above comment.

(1) Comment is correct. Table 2-2 contains units not shown on Map 2-3. Conversely, it also does not show rock units which are exposed in the study area. See Changes to the Text, Part 2. Table 2-2 has been deleted completely.

(2) Comment is not correct. Map 2-3 is a complete map in as much as it shows the San Juan Basin and its structural boundaries, and

its geologic ingredients are represented correctly as being generalized (see Fassett and Hinds 1971; Baltz, Ash and Anderson 1966).

(3) Comment is an erroneous interpretation of perspective. In this instance, a summary is all that is intended and not a stratigraphic depiction; therefore, since most summaries start at or near the beginning, the older units are at the top and younger units at the bottom.

(4) Comment is correct. The Nacimiento Formation is Early to Middle Paleocene, not "Early to Middle Paleozoic." See Changes to the Text, Part 2.

(5) Comment is unsubstantiated. Vertebrates are recorded in the literature from the Ojo Alamo Sandstone.

(6) Comment is correct. No mammals are known from the Jurassic Morrison Formation of New Mexico. See Changes to the Text, Part 2.

(7) Comment is correct. See Changes to the Text, Part 2.

(8) Although only an isolated snake vertebrae from one locality is recorded, it is not illogical to assume with a great deal of confidence that there existed in the San Juan Basin more than one snake.

Comment 16. This comment questioned the accuracy of the quotation on p. 2-9, saying the act of publication (Lucas, Rigby, and Kues 1981) does not bestow accuracy. (478.)

Response 16. It is recognized that publications of any kind may or may not be accurate. Accepting unsubstantiated opinion in lieu of information provided by scientifically creditable publications is not done here. The quote remains unchanged.

Visual Resources

Comment 1. Questioned whether the "badlands" are a visual resource. (28.)

Response 1. By definition in BLM Manual 8400, the visual resource is the land, water,

vegetative, animal, and other features that are visible on all lands.

Comment 2. The EISs do not address the effect of exacerbation of haze, air pollution, and acid rain on the visual resources in CCNHP. (311.)

Response 2. The effects of haze and air pollution are discussed in the CO (p. 2-3) and the CO Technical Report (p. 6-3). Acid rain is not expected to have a significant effect on visual resources.

Comment 3. The proposed actions would cause visual impacts on the WSAs and CCNHP. (437.)

Response 3. BLM acknowledges that construction and operation of the proposed actions could occur within the viewshed of WSAs and CCNHP. Significant impacts to the visual resource would be mitigated to lessen the contrast.

Recreation Resources

Comment 1. The reference on Map 2-5 to the Continental Divide National Scenic Trail (CDNST) is incorrect. The CDNST location has not been selected and the USFS intent is to enable the public to view various resource uses of the Rocky Mountain area along the length of the trail. (470.)

Response 1. The referenced Map 2-5 on p. 2-22 depicts the location of the actual Continental Divide, not the Continental Divide National Scenic Trail. BLM agrees and acknowledges that the intent of the CDNST is to enable the public who use the trail to view different uses of the public lands.

Comment 2. The San Juan River should be listed as important for recreational fishing (p. 2-21). Hunting in northwest New Mexico should also be mentioned. (477.)

Response 2. Hunting in northwest New Mexico is acknowledged to be one of the major dispersed recreation activities, and it is included in the discussion on p. 2-21. Reference to the importance of the San Juan River's quality fishing is found in the section

on Suggested Mitigation (p. 3-25), where increased stocking programs are recommended to maintain the quality recreation experience.

Wilderness

Comment 1. One comment stated: "Neither the EIS nor the CO indicates whether there are current oil and gas leases in the Bisti WSA. We suggest that subsequent versions of the documents clarify whether there are current oil and gas leases in the Bisti WSA. (4.)

Response 1. Refer to the Draft Bisti, Denazin, Ah-shi-sle-pah Proposed Wilderness Areas EIS, Appendix D-2, for a listing of all oil and gas leases currently existing in all three WSAs, including the Bisti WSA.

Transportation Resources

Comment 1. Three comments were received concerning the use of various county and state roads by the public and by heavy commercial equipment. The comments were also concerned about the costs involved in re-routing or reconstructing roads. (H-60, 478.)

Response 1. It is anticipated that all county and state roads in the area would remain open to the public. If road closures or relocations become necessary, it would be accomplished through coordination with local, county, and state governments. Any costs or other needs incurred would be set out in a plan of construction with participation and approval by the state and county governments involved.

Heavy hauling on roads would be in accordance with established legal limits. Any deviation from established limits would require approval of the appropriate governmental agency.

Comment 2. One comment stated there was lack of quantification on impacts on people, livestock, and wildlife. Blasting vibrations may cause damage to archeological, fossil and other fragile resources. It is anticipated that there would be rebuilding of NM 371 between Farmington and the NMGS site. Mitigation measures are not discussed or are inadequate and unclear, and there is no

present way to economically transport coal out of the San Juan Basin. (444.)

Response 2. Specific quantification on the impacts to people can be found in the Social and Economic Conditions sections of the site-specific EISs and the CO. In addition, quantification of impacts on livestock and wildlife, other than the brief summaries in the CO, can be found in the site-specific EISs. Please refer to the appropriate alternative in the SJRRCL EIS for a discussion of the impacts of blasting vibrations on cultural resources. No other significant blasting vibrations are anticipated. The DCO on p. 3-26 recognizes as significant impact on NM 371 between Farmington and the NMGS site. The DCO (p. 3-28) also suggests a mitigation measure to reduce the impact on NM 371. Specific stipulations are usually developed at the time of leasing or ROW grant to reduce identified impacts. During the EIS process only mitigation measures are usually prepared and included in the EIS.

Concerning availability of economic transportation of coal, it is recognized that this would be needed before large quantities of coal can be mined and shipped. Please refer to Chapter 3 of the SJRRCL EIS, Assumptions, Transportation.

Comment 3. The map (Map 2-6) on p. 2-24 is inaccurate because it shows the Lee Ranch Mine in the vicinity of Star Lake. (470.)

Response 3. This map is a general sketch map and is used only to show the general locations of the major transportation routes in the San Juan Basin.

Social and Economic Conditions

Comment 1. Navajo "values" and "lifestyles" were undefined. Who is to look after and be concerned with Navajo employment, protection of gravesites, lands, grazing interests, homes, relocation needs, sacred rites, and rights to reoccupy reclaimed lands and gathering areas? How should stress from all this change be handled? Who is responsible for reclamation and revegetation of lands? What impacts will occur to families outside tracts to be developed and those who will be

study and social assessment are needed to evaluate Indian issues and concerns. Impact assessment and mitigation measures are inadequate. (H-88, H-106, H-109, H-124, H-152, H-160a, 17, 41, 49, 232, 311, 355, 389, 438, 449, 469, 485, 488, and 524.)

Response 1. Navajo values refer to beliefs and practices which give meaning and purpose to Navajo life, and lifestyle has to do with how people maintain their beliefs and apply meaningful practices in their daily living. Pastoral agriculture as an economic way of life characterizes Navajo lifestyle and has value to them as does their belief in their relationship to the earth and creative beings, which gives value to their use of plants and natural substances in their ceremonies and in their designation of sacred sites.

The purpose of the CO is to analyze impacts when the overlap of more than one proposed action would create impacts at levels greater than the sum of the individual proposals' impacts. The reader is referred to responses to the comments on the individual EISs, particularly the "Native American Concerns" responses in the SJRRCL FEIS.

Comment 2. Discussion of monitoring, mitigation, training, and negative impacts should be included. (H-109.)

Response 2. Monitoring procedures can best be developed as the mine plan environmental assessment is considered, and therefore has not been given extensive consideration in this CO. Mitigation is addressed in the CO only as it references the reader to the detailed mitigation sections of the individual EISs. Training provided by the mining companies could expand the positive impacts, particularly to the local Navajo people, but it is not required by legislation or regulation. The SJRRCL and NMGS EISs each discuss possible mitigating measures to address training issues.

Comment 3. On the Jicarilla Apache Reservation, pressure from increased population, equipment impacts on land, and accidents resulting from increased traffic have not been discussed in the CO. (269.)

Response 3. It was not indicated by the CO and site-specific analyses that any of these concerns would be impacted at significant levels on the Jicarilla Apache Reservation.

Comment 4. The 10 percent annual population growth is an inappropriate criterion. (478.)

Response 4. In analyzing several projects in the region, it seemed desirable to set some standard criterion on which to determine whether or not population impacts were considered significant. The 10 percent growth-rate figure was considered in light of BLM planning guidelines, and in light of the 8 percent growth rate previously established to qualify for emergency-impacted community assistance. The criterion served as a guide to the effective analysis of cumulative impacts.

Comment 5. Analysis of public revenues and finance for any assessment is oversimplified and insufficiently developed, and an important change in public school financing enacted in 1981 has been overlooked. (478.)

Response 5. The analysis and projection of public finance for any assessment has many problems. Tax laws, rates, and evaluations do change. Based on the new enactment of 1981, the state will have more responsibility for school finances. In this regard then, the CO indicates some levels of population increases from which anticipated school enrollments can be derived for projecting state financial needs. Some state revenues are estimated in the individual EISs.

A second problem of public finance analysis is determining future expenditure requirements and the adequacy of facilities being provided with current expenditure levels. An assumption was made that if significant impacts were to be avoided, at least the current per capita level of expenditure would have to be maintained. This became the basis for determining needs, and the current tax rates became the basis for projecting potential revenue, and the periods of deficit and surpluses are indicated. The information in the CO along with the individual EISs provides a basis for establishing

that there would be impacts to facilities and services maintained and provided by state and local government and the population and production figures are available, through which the state and local governments can keep abreast of their needs and potential for meeting these needs.

Comment 6. Predictions of jobs are arbitrary. Demand, not leasing, would determine the number and timing of coal jobs. It is not possible to exhaust the coal resource proposed for mining on the schedule envisioned. Some of the competitive leases are projected to exceed the 40-year mine life limit set in the regulations. (485.)

Response 6. All estimates concerning jobs, coal reserves, and production levels and timing were based on the most current data available at the time of analysis assuming coal development at regulatory minimums. To do otherwise would be to understate impacts. The regulations no longer require a 40-year mine-out unless a lease is made a "logical mining unit."

Comment 7. The population projections in Table 3-9 should be supplemented by comparative data on historic population. (488.)

Response 7. Historic population data were utilized as a basis for the projections. Some of the historical data are shown in the NMGS Technical Report on Social and Economic Conditions.

Comment 8. The CO does not assess whether the projected noise levels would be expected to be stress-inducing. (428.)

Response 8. Because many residents would be relocated as a result of coal mining, and because regulations prohibit mining within 300 feet of a residence without specific permission, noise-induced stress is not expected to reach significant levels.

Comment 9. Communities, both geographic and social, would be influenced by population changes resulting from the proposed development. (H-60, H-90, 272, 438, 488.)

Response 9. Impacts to geographic communities such as Farmington are indicated in the

analysis of social and economic conditions shown in Chapter 3 of the CO. Additional geographic community analyses are shown in the individual EISs.

Impacts to social communities are concentrated on the Navajos who would be directly impacted by the proposed development. These impacts are analyzed as far as available data would permit, either in the CO or in the individual EISs. While these social communities would be impacted, it is not expected that any of them would be destroyed. The Hispanic and Anglo social communities are not given the level of attention that the Navajo are because the adverse impacts to these communities are not nearly as potentially significant.

Communities, both geographic and social, are influenced by boom-bust development patterns. The proposed actions form the basis for a development period which would have a rather rapid development with a long sustained operating period. The 50 years talked about could be extended by the leasing of additional resources to maintain the production levels. Therefore, if a bust occurred it would occur most likely as a result of decreased demand for the resources.

Comment 10. Impacts should be reanalyzed using a more realistic timeframe for development. (17.)

Response 10. Based on the present impact analysis, the Secretary of the Interior has the discretion to lease any of the tracts analyzed or to refrain from leasing any tract and, therefore, could alter the timeframe at least relative to coal leasing. The timeframe for NMGS development would, of economic necessity and regulatory requirement, be dictated by the need for electricity. The analysis in the CO was based on the best information available at the time. While uncertainties in timeframes exist, it is believed the analysis is adequate.

Comment 11. The document does not adequately address physical and mental health nor social and social service needs. The assumption that local people would adapt to benefits from development is flawed. Social impacts and Folk Life studies should be

conducted as a basis for analyzing impacts. (H-109, H-165, 428, 449, 484, 486.)

Response 11. The physical health of people is not likely to be impacted at significant levels. The CO discusses the need for increased human services, including health, mental health, and social and other types of services required as a result of population increases and other development impacts. These other factors are also addressed where impact levels were considered significant in the site-specific EISs.

Social data are available without further study on the cultural and lifestyle values of Navajo people and their relationship and interaction with other groups in the area. These data were utilized in the analysis of the various proposed actions.

The CO analysis concentrates on the Greater Farmington Area as the area of influence when considering the proposed actions together. This area has been experiencing rapid growth for some time and has become large enough that the projected growth would not seem to achieve boomtown proportions. Furthermore, with the experience of the past 30 years as a point of beginning, this area would likely respond well to the growth opportunities. The rural areas are not expected to receive significant levels of population impacts.

CHANGES TO THE TEXT

Part 1 - Draft Cumulative Overview

Page 1-22, Table 1-6--to add common names to THREATENED AND ENDANGERED SPECIES under Proposed Action: 1 Mesa Verde cactus (Sclerocactus mesae verdae); 1 Mancos milkvetch (Astragalus humillimus); 1 Greenback cutthroat trout (Salmo clarki stomias). In addition, add to THREATENED AND ENDANGERED SPECIES: Number of threatened and endangered terrestrial species potentially affected by acid precipitation and human population increase. Add under Proposed Action: 1, bald eagle (haliaeetus leucocephalus).

Page 1-27, Table 1-7--to underline: Sclerocactus mesae-verdae.

Page 1-29, Table 1-8--under THREATENED AND ENDANGERED SPECIES to replace 0's with: 1 (Sclerocactus mesae-verdae. Also underline the third entry in the same row: Sclerocactus mesae-verdae.

Part 2 - Draft Cumulative Overview

Page 2-9 - In the first full paragraph delete "...to 80-foot-long dinosaurs (Table 2-2)" and add in its place "...to some well preserved skeletal elements of an 80-foot-long dinosaur."

Page 2-11, Table 2-2 - Delete completely the following; "Morrison Formation - late Jurassic - Continental - Dinosaurs, mammals"; delete completely the following Dakota Sandstone - Early (?) to Late Cretaceous - Continental to nearshore marine - Plants, invertebrates (Paleontology Response 15, parts [1] and [5]).

Page 2-11, Table 2-2 - Change the second column for the Nacimiento Formation from the Early to Middle Paleozoic to Early to Middle Paleocene (Paleontology Response 15, part [4]).

Page 2-11, Table 2-2 - Add the following to the bottom of the table; San Jose Formation - Early to Middle Eocene Age - Continental Environment - Mammals, turtle, crocodiles, fish, lizards, snakes, a bird. Freshwater gastropods, unionids, and fossils (Paleontology Response 15, part [7]).

Page 2-12, paragraph 2 - Change the word reconnaissance to survey.

Page 2-13, Map 2-4 - The BLM recognizes that the prehistoric road shown from Seven Lakes to San Mateo and the prehistoric road from Seven Lakes to the Crownpoint area are no longer believed to be part of the Chacoan Road System. The map, however, is not being reprinted for the FCO.

Page 2-14 - In the third full paragraph delete the last sentence "The world reference section...." and add in its place "Within the Dena-zin WSA is one of two reference sections in the area which have gained international importance for early Paleocene mammals. Paleontologist working on early mammals

deals directly or indirectly with information provided by fossils collected from these sites and significant fossils continue to become exposed."

Page 2-15 - Change Table 2-3 to read no Chacoan outlier is known in the Lee Ranch East Tract. No prehistoric road is known in the Lee Ranch Middle Tract. No Chacoan outlier or road is known in the Divide Tract. Chacoan roads may cross NM 3754 and NM 3752.

Page 2-21 - Last full paragraph, add after Navajo Lake State Park (include San Juan River quality trout water).

Part 3 - Draft Cumulative Overview

Page 3-25 - Add to the fourth bullet the following: "Significant population increases would increase hunting demands for deer, waterfowl, and other species. Increased demand would result in decreased hunting quality and possible reduced numbers of animals for harvest."

Part 4 - Draft Cumulative Overview

Page 4-2 - The following is added to this page:

Concerning the preparation of Part 2 Affected Environment and Part 3 Environmental Consequences by the third-party contractor Woodward-Clyde Consultants, the following is provided. An addendum to the Memorandum of Understanding between the Bureau of Land Management and Public Service Company of New Mexico for Environmental Impact Preparation approved December 4, 1980, was made to include the preparation of Parts 2 and 3 of the Cumulative Overview. This addendum was approved October 9, 1981. Following the addendum approval, Woodward-Clyde Consultants were selected by BLM as the contractor to work on Parts 2 and 3 under the guidance and direction of the BLM.

Copies of the December 4, 1980 Memorandum of Understanding (MOU) between the Bureau of Land Management and Public Service Company of New Mexico for Environmental Impact Statement Preparation and the October 4, 1981 addendum are available for public inspection at the New Mexico State Office. It should be noted that the December 4, 1980 MOU was for the preparation of the NMGS EIS, while the October 9, 1981 addendum was for preparation of Parts 2 and 3 of the Cumulative Overview.

Page 4-3 - The following is added to the list of Preparers and Contributors: Since the CO used information presented in the three site-specific EISs, those lists of preparers and contributors in the site-specific EISs are incorporated by reference into the CO. For a list of Woodward-Clyde Consultant preparers for Parts 2 and 3 of the CO, please refer to the NMGS EIS list of preparers for the specific resource topic.

Glossary

Cultural Resources: Those fragile and non-renewable remains of human activity, occupation or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture and natural features that were of importance in human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred--even though evidence of the event no longer remains, and (3) the environment immediately surrounding the actual resource. Cultural resources, including both prehistoric and historic remains, represent a part of the continuum of events from the earliest evidences of man to the present day.

Prehistoric: Pertaining to that period of time before written history. In North America, "prehistoric" usually refers to the pre-Columbian period.

LIST OF PREPARERS

TEAM MEMBER	FCO RESPONSIBILITY	EDUCATION	YEARS OF RELATED EXPERIENCE
Gene Day	Project Manager	Master of Forestry	26
Robert Armstrong	Environmental Coordinator	B.S., Range Management	22
Kent Hamilton	Social and Economic Conditions	B.S., Agricultural Economics	23
Robert Heideman	Visual, Recreation	B.S., Park Management	10
Marie Larragoite	Editorial	High School	27
Mike O'Neil	Paleontology	B.A., Biological Anthropology	6
Al Pack	Native American Concerns	B.S., Wildlife Management	12
John Roney	Cultural Resources	B.S., Anthropology	8

COMMENT LETTERS

EXPLANATION OF LOG-IN NUMBERS

The numbers that are given in the center (top and bottom) of each letter sheet refer to the original log-in number for the letter as it was received by the BLM. Each EIS that refers to this companion letter volume gives a table of log-in numbers associated with the name of the letter author. Where a number is given and is followed by a number in parentheses, the number in parentheses refers only to the log-in number for the SJRRCL EIS.

FEDERAL

UNITED STATES GOVERNMENT

memorandum

UNITED STATES GOVERNMENT

memorandum

DEC 1 1982

DATE: ACTING ASSISTANT

REPLY TO: Navajo Area Director

SUBJECT: Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station (NMGS) and Possible New Town

TO: State Director, Bureau of Land Management, Santa Fe, New Mexico

We have reviewed the subject Draft Environmental Impact Statement (DEIS) and we find it inadequate and unacceptable in the following:

1. The DEIS does not adequately address the relationship between the Ute Mountain Land Exchange and the NMGS. It fails to clearly explain the fact that should the Ute Mountain Land Exchange be consummated there will be no need for an Environmental Impact Statement (EIS) because the NMGS will then be located on private property, i.e., the reason for an EIS will be legally negated.
2. The DEIS does not fully and completely explain the fact that the land proposed for the NMGS is the same exact land that the Navajo Tribe has chosen, under Public Law 96-305, as amended (Navajo-Hopi Indian Relocation Act), for relocation of many of its people.
3. The DEIS does not clearly and fully address the impacts of the NMGS to the Navajo Nation as a "whole entity" in the following ways:
 - A. Most of the construction, operation and maintenance labor force will probably be non-Navajo. This will be especially true if the NMGS is built on private land, i.e., the Ute Mountain Land Exchange is consummated.
 - B. The coal used in the NMGS will probably be non-Navajo coal.
 - C. Navajo Nation air quality will be severely degraded via the NMGS, dust from mining operations, dust from increased traffic on unimproved roads and coal transportation.
 - D. The esthetics and general visual qualities of the Navajo Nation will be severely impacted via the generating station, transmission lines, potential haze and dust.
 - E. The very substantial increase in traffic and number of vehicles will also severely impact the Navajo Nation lives and livestock due to this increase in traffic and vehicles. The present project plans do not require any compensation for these losses to the Navajo people.
 - F. Costs of maintenance and improvement of the highways and off-highway roads will also substantially increase. These costs

DEC 1 1982

DATE: ACTING ASSISTANT

REPLY TO: Navajo Area Director

SUBJECT: San Juan River Regional Coal - Applying Unavailability Criteria to Indian Lands: Memorandum of Understanding (MOU), July 28, 1982

TO: State Director, Bureau of Land Management, Santa Fe, New Mexico

While reviewing the subject Draft Environmental Impact Statement, we discovered that the Bureau of Land Management (BLM) has apparently applied the unavailability criteria to the entire proposal area, including the Indian lands and declared the entire area, with but a few exceptions, suitable for coal mining.

The area covered under this subject proposal will encompass approximately 207 Navajo Indian allotments and about 33,100 acres of Bureau of Indian Affairs (BIA) administered land. Under the subject MOU (NMSO-173, copy enclosed), the BIA is recognized as the land management agency and the agency responsible for applying the unavailability criteria for all Indian lands in the subject area. As BIA has not had the opportunity to apply these criteria to the land in question, could you please furnish my agency with all of the information, material and documentation BLM used in applying these unavailability criteria to the Indian lands in question. Upon receipt of this information, my staff will review it to see if we concur with BLM's determination or if we will need further studies to make our determinations.

As the Preference Right Lease Applications are subject to be issued in February or March of 1983, your agency's earliest reply to this request would be appreciated.

Thank you for your kind cooperation in this important matter.

will have to be borne by the Bureau of Indian Affairs and the Navajo Nation.

- G. Maintenance of the traditional life style of the Navajo Nation will also be severely impacted.
- H. Untold numbers of archeological and traditional Navajo religious sites will also be adversely impacted.
- I. The ground water used from the well field will also severely impact the Navajo Nation, i.e., reduction of springs, wells, etc.
4. The DEIS is inadequate in its treatment of the Threatened and Endangered (T&E) species of the project area. Not all of the available T&E information for the project area was ever collected or even considered. A number of false and misleading statements and assumptions are used in the T&E portion of the DEIS.

SPECIFIC COMMENTS

Page 1-30 Native American Values and Lifestyle

Ethnographic evaluation of Native American concerns dealing with the impacts of the proposed action on sacred areas, burial areas, ceremonial sites, plant gathering areas and other aspects important in the Navajo religious tradition must be provided for and adequately recognized. The mitigation of these impacts must also be to the satisfaction of the Navajo people involved.

Table 1-7 Summary of the Potential Impacts for Proposed Action

Why are cultural resources and Native American values and lifestyles excluded from this table?

Table 1-8 Summary of Potential Impacts for Comparing Alternative Water Supply Systems

Does this summary include all of the sacred sites (localities) important in Navajo American religious tradition?

Table 1-9 Summary of Potential Impacts for Comparing the Proposed and Alternative Line Corridors

Same question as for Table 1-8.

Page 2-39 Proposed Terminal Storage Reservoir

What about the impacts to cultural resources, why aren't they addressed?

Page 2-44 Transmission Line T5 and Rio Puerco Station

Same question as for page 2-39 above.

Page 3-33 Alternate Intake Structure and Pipeline P2

Same question as for page 2-39 above

Page 3-34 Proposed and Alternate Terminal Storage Reservoir

Same question as for page 2-39 above.

Page 3-35 Proposed Transmission Line T1

Why are the indirect impacts to cultural resources via increased accessibility not addressed?

Page 3-36 Proposed Transmission Line T2

Same question as for page 2-39 above.

Page 3-38 Alternative Transmission Line T3 and Alternative Transmission Line T4

Same question as for page 2-39 above.

Page 3-39 Proposed Transmission Line T4

Same question as for page 2-39 above.

Page 3-57 Cultural Resources

Reference is made to "specific approaches and further discussion of cultural resources mitigation" in BLM's Cultural Resources Technical Report. However, the following disclaimer is noted on the cover of the Technical Report prepared for BLM by Woodward-Clyde Consultants.

"Not approved. Subject to change in whole or in part. Does not reflect BLM's official position."

Will the cultural resource report as it stands be the "official position" of the BLM?

Thank you for the opportunity to review the DEIS and we hope these comments can be assistance to your organization.



Soil
Conservation
Service

Room 3008 Federal Building
230 North First Avenue, Phoenix, AZ 85025

January 10, 1983

Mr. Bob Armstrong
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Armstrong:

The following comments are provided after review of your draft San Juan Basin Cumulative Overview.

1. Your references page R-1 should include the following reference:
"U.S. Department of Agriculture, 1980, Soil Survey of San Juan County, New Mexico, Eastern Part. U.S. Government Printing Office. 173 pp., illus., maps."

2. Efforts should be continued to minimize erosion from disturbed areas and reduce sediment transport to downstream areas.

The surface of spoil disposal areas should be left in a condition to:

- a. Contain runoff water and sediment within the disturbed area. (This is presently being accomplished by the construction of berms and dikes.)
- b. Provide access by four-wheel vehicles, for range management purposes.
- c. Minimize erosion for the establishment of native vegetation, i. e. flat slopes, short slope lengths for runoff water, etc.

If I may be of further help, let me know.

Sincerely,

Verne M. Bathurst
State Conservationist



United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. Box 11568
SALT LAKE CITY, UTAH 84147

IN REPLY REFER TO UC-150

120.2

JAN 17 1983

Memorandum

To: State Director, Bureau of Land Management, New Mexico State Office, P. O. Box 1449, Santa Fe, New Mexico 87501

From: ^{Acting} Regional Director
Bureau of Reclamation

Subject: Review of San Juan River Regional Coal Draft Environmental Impact Statement

In a letter to your agency dated April 26, 1982, copy of which is enclosed, we suggested you consider in your report that the Animas-La Plata Project has irrigated land in the La Plata, New Mexico, coal lease area. On reviewing your Draft Environmental Impact Statement, we find no mention of this fact, nor do you mention having consulted our agency. We feel it is important to consider that your action could affect approximately 600 acres of land associated with the Animas-La Plata Project.

H. D. Durkin

Enclosure



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FORT WORTH SERVICE OFFICE
221 WEST LANCASTER AVENUE
P.O. BOX 2905
FORT WORTH, TEXAS 76113

REGION VI

IN REPLY REFER TO

January 24, 1983

Mr. Charles W. Luscher
State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, NM 87501

Dear Mr. Luscher:

The Draft Environmental Impact Statement for the San Juan River Coal Region has been reviewed in the Department of Housing and Urban Development's Dallas Area Office and Fort Worth Regional Office. The Department's review comments follow:

1. Cross-reference to incoming inquiry.

The proposed action is the Bureau of Land Management's leasing for coal mining purposes of 39 new tracts in northwest New Mexico.

2. HUD comment on the Statement.

In HUD's opinion the Statement would be improved if it addressed the anticipated impact of noise from mining and/or transportation operations on housing and other noise-sensitive types of development.

3. HUD comment on the Proposal.

HUD does not oppose the proposed action.

Sincerely,

Victor J. Hancock
Victor J. Hancock
Environmental Clearance Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Research Laboratories
325 Broadway
Boulder, Colorado 80303

R/E22:RFP

JAN 11 1983

*Rec'd PP/EE
1/21/83*

TO: PP/EC - Joyce Wood
FROM: R/E -- George Ludwig

SUBJECT: San Juan River regional coal environmental impact statement.
(Briefing memo)

In the following I am addressing the portion of the EIS that deals with air quality.

1. The only air quality parameter considered in the EIS is total suspended particulates (TSP), or the mass loading of the atmosphere. This parameter is dominated by the large particles which settle out relatively fast and, therefore, are short-lived. The distance up to which these large particles are advected in the vicinity of the actual mining operation is realistically 20km, as stated in the EIS. If, however, a significant fraction of the generated aerosol is submicron, advection to larger distances is very likely. Information on the particle size distribution that is generated during coal mining operations is needed to evaluate this problem.

2. The prevailing meteorology determines the local/regional air quality at given source strengths of particulate material. Climatological data far beyond what is said on page 2-2 of the EIS is needed to evaluate an impact of the proposed coal mining operations on air quality. George Holzworth of EPA has published data on mixing heights for winter and summer that should be looked at in this regard. Our own work in the Four Corners area in fall and winter does not support the claim on p. 2-2 of a daily breakup of the inversion; such a breakup is, however, regularly observed during the summer season.

3. The increase in traffic due to the proposed mining operations is substantial (see table 3-8 of the EIS). Yet, no consideration is given to an impact of this increased traffic on the regional air quality. Those impacts would cover a greater geographic area due to non-stationary sources and the formation of smaller, hence longer-lived primary and secondary aerosols. Also gases will be of consequence to air quality.

4. The largest impact on air quality, and possibly climate, will result from the subsequent utilization of the coal. The Four Corners powerplant near the proposed mining areas is a striking example of the potential impact on air quality of coal combustion. (There are numerous in-house publications available that testify to this effect). Other coal utilization (liquefaction, gasification) can avoid the emission to the atmosphere of sulfur and flyash, but they contribute to the formation of NO_x and subsequently nitrate, a precursor to acid rain.





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20235
OFFICE OF THE ADMINISTRATOR

January 21, 1983

State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, NM 87501

Dear Sir:

This is in reference to your draft environmental impact statement entitled "San Juan River Coal Region." Enclosed are comments from the National Oceanic and Atmospheric Administration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving four copies of the final environmental impact statement.

Sincerely,

Janice M. Wood
Janice M. Wood
Chief
Ecology and Conservation Division

Enclosure



10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic
tradition of service to the Nation



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Center for Disease Control
Atlanta, GA 30333
(404) 452-4095
January 28, 1983

State Director (934A)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

We have completed our review of the Draft Environmental Impact Statement (EIS) for Public Service Company of New Mexico's Proposed Generating Station and Possible New Town (NMGS). We are responding on behalf of the U.S. Public Health Service and are offering the following comments for your consideration in preparing the final document.

We note that certain threshold values were utilized as indicators for assessing the significance of impacts on the hydrologic systems as a result of NMGS. For the "Alternative 1 Water Supply System (20,000 acre-feet/year from San Juan River and 15,000 acre-feet/year Ground Water)," we understand that significant impacts would occur over almost the entire San Juan Structural Basin in all three aquifers from drawdown. With regard to groundwater users, the EIS should describe the population that will be adversely affected and the number of potable groundwater supplies (private and public) and other groundwater supplies that will be significantly affected (drawdown greater than 25 feet) by the proposed project using the Alternative 1 Water Supply System. What efforts, if any, can be taken to mitigate these adverse effects should this alternative water supply be selected? If the decline in the potentiometric surface of the aquifer (being locally used) results in a nonusable and empty well or a poorer quality supply (i.e., higher total dissolved solids (TDS), etc.) after deepening and/or lowering the pumping level, this should be disclosed for each water supply well.

According to the EIS, it is not known whether subsidence in the basin due to groundwater withdrawals will be significant. Until additional information is provided on the extent of possible land subsidence, the environmental acceptability of this water supply alternative cannot be determined. The effect of any quantified subsidence upon the human environment (i.e., community structures, utilities, transportation systems, flood hazard areas, etc.) should be addressed, if possible, in the Final EIS.

Based on the information provided in the EIS, the "Proposed Action" water supply system (35,000 acre-feet/year from the Navajo Reservoir (San Juan River)) appears more environmentally preferable than "Alternative 1."

Page 2 - State Director (934A)

It should be indicated if the two proposed EVAP ponds, the effluent ponds, and the storm drainage and coal pile runoff ponds will be located outside the influence of the floodplain of the Coal Creek/Den-a-min Wash and any other tributary or drainage course. What efforts will be taken to prevent any discharges from these ponds to downstream water during high rainfall conditions?

According to the EIS, withdrawal of up to 35,000 acre-feet of water from the San Juan River would increase average levels of TDS downstream along the Colorado River. While the Bureau of Reclamation views these TDS increases as an allowable result of the State's use of available Colorado River system waters, the significance of TDS increases in downstream waters and the Imperial Dam from unplanned discharges during high rainfall conditions from onsite ponds should be discussed. In this discussion, please consider separately the effects from using the proposed action water supply system and the Alternative 1 water supply whose waters differ in TDS concentrations and possibly in other parameters.

In conducting an assessment of the water supply for the "Possible New Town," the quality of the available groundwater supplies from the different underlying aquifer formations should be compared with applicable criteria and standards to determine if compliance with the National Interim Primary Drinking Water Regulations will be economically possible with treatment.

We appreciate the opportunity to review this Draft EIS. Please send us two copies of the Final EIS when it becomes available. Should you have any questions about our comments above, please call Mr. Robert L. Kay, Jr., or me at FTS 236-6649 or FTS 236-4095, respectively.

Sincerely yours,

Frank S. Lisella
Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health



United States Department of the Interior

BUREAU OF MINES

P.O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80275

Intermountain Field Operations Center

January 31, 1983

Memorandum

To: State Director (912), Bureau of Land Management, New Mexico State Office, P.O. Box 1449, Santa Fe, New Mexico 87501

From: Chief, Intermountain Field Operations Center

Subject: Review of Draft San Juan River Regional Coal Environmental Impact Statement, San Juan, McKinley, Valencia, and Sandoval Counties, New Mexico

Personnel of the Bureau of Mines have reviewed the subject document concerning issuance of Federal Coal Leases in New Mexico. The Bureau of Mines is primarily concerned with the effects this proposal would have on mineral resources and their development in the area.

The purpose of this DEIS is to develop a program for meeting the leasing goal of 1.2 to 1.5 billion tons of in-place Federal coal (as established by the Secretary of the Interior) in the San Juan River Region. This goal is incorrectly stated as 1.2 to 1.5 million tons of in-place coal on page 1-10 (paragraph 3).

Known mineral resources in the San Juan River Region include coal, petroleum and natural gas, uranium, stone, and sand and gravel. Uranium occurrences and possible conflicts with the proposed leasing of Federal coal are not mentioned. The study area, as shown on Map 1-1 (p. 1-2) and Map 2-1 (p. 2-6), includes large areas of known uranium occurrences and numerous uranium-producing areas. Subsequent versions of the document should include a discussion of possible impacts and conflicts between coal and uranium production in the study area.

Five alternatives were formulated for developing Federal coal in the region. According to this study, only the Target Alternative (the BLM preferred alternative) falls within the Secretary's leasing goal. The Target Alternative would allow the leasing of 1.32 billion tons of in-place Federal coal (pp. 1-10, 3-40) with approximately 0.7 billion tons recoverable. On page 1-28, the impact on mineral resources gives the figure for removal of coal

as approximately 1.2 billion tons of coal with 696 million tons being Federal coal. Figure 1-1, however, indicates all alternatives will include the issuance of new leases for 2.2 billion tons of Federal coal on 26 existing Preference Right Lease Applications (PRLA's). This would be in addition to the issuance of leases for competitive coal tracts. If this is true, the cumulative total of Federal coal leased would be 3.4 billion tons of in-place coal (well over the Secretary's goal of 1.2 to 1.5 billion tons), and would certainly result in more than 696 million tons of Federal coal being mined.

This report does not indicate if the leasing target of 1.2 to 1.5 billion tons of in-place Federal coal, established by the Secretary of the Interior, includes in-place Federal coal on PRLA's or only the Federal coal on competitive leasing coal tracts. Both options are for leases of Federal coal and apparently would be included in the target goal. This, however, is not reflected in the leasing figures given for each alternative. Subsequent versions of the document should include clarification of what is included in the term "Federal in-place coal," and should discuss the status of PRLA's in the BLM preferred alternative.

Joseph B. Smith
Joseph B. Smith

2

We suggest that you give consideration to these areas of concern and take appropriate action to address how these needs of communities will be met should they arise.

Sincerely,

David A. Rust
David A. Rust

Director
Office of Policy Coordination
and Review

cc: Charles Custard

DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of
Human Development

Office of Assistant Secretary
Washington, DC 20201

17 JAN 1983

Mr. Richard T. Watts
Bureau of Land Management
Farmington Resource Area
900 N. La Plata Highway
P. O. Box 568
Farmington, New Mexico 87499

Dear Mr. Watts:

This is in response to your request for comments on a Draft Environmental Impact Statement (EIS) for the San Juan River Coal Region.

The EIS analyzes the impact that would occur as a result of alternate levels of competitive coal leasing and development on Federal land in this region. The EIS region is characterized as a tri-ethnic culture (American Indian, Hispanic and Anglo). The EIS states that reclamation regulations will be adhered to and that the concerns of the Indian communities regarding sacred sites, gravesites, and relocation of individuals and livestock will be dealt with satisfactorily.

We believe that the anticipated influx of a great number of construction workers and their families may result in a substantial increase in demands for housing, consumer goods, health and educational facilities, police and fire protection, and social services. In addition, the rapid rise in population and industrialization of the area could have a significant impact on the interrelationships between individuals of differing cultural or ethnic origins and lifestyles. While the EIS identifies some of these potential problems, there is no indication that steps are underway to enable communities to respond to them.



United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
505 Marquette NW, Room 720
Albuquerque, New Mexico 87102
February 3, 1983

State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

The following comments are a result of a review made of the Draft San Juan River Regional Coal Environmental Impact Statement by hydrologists of the U.S. Geological Survey. Review was confined to the topics of ground water and surface water hydrology.

I hope the following comments will aid you in more accurately representing the hydrology of the coal lease areas.

Ground-water:

- p. 2-18 "Most recharge to the bedrock aquifers occurs where their outcrops are crossed by stream." This is not a known fact.
- p. 2-21 "The quality of water in the alluvium is generally better than that from bedrock aquifers." I question this, but it may be true in any given location.
- p. 2-22 Recheck the numbers in table 2-7. I think the San Jose Formation would have a value for transmissivity of greater than 150 feet squared per day. See Baltz and Wert's U.S. Geological Survey Water Supply Paper for the southern Jicarilla Reservation.
- p. 3-11 Table needs notes that indicate that the drawdowns for no action should be added to the drawdowns for the others or visa versa. Maybe they should simply be added, leaving it to the reader to find the difference between alternatives.


In general the model pumpage stresses should be described so the reader has some idea of what is causing the drawdown in the water table.

Surface-water:

The surface water information presented in the section, "Affected Environment" is satisfactory as far as those data go. However, the major problem stems from the lack of data available to describe the affected environment. Site specific data are necessary to adequately describe the surface water conditions of the coal tracts. Such site specific data would include description of basin characteristics (slope, drainage area, active channel width) of the channels draining the tracts and measurement or estimation of the streamflow characteristics (flood magnitude and frequency, flow duration, mean flows). Even though these types of analysis would be available in the mine plans, I feel they are needed for technical evaluation prior to the sale of the leases. Therefore, I feel that the current surface water environment is not adequately described in the EIS.

The reporting of the impacts on surface water by the various mining levels is meager. Virtually no specific data is available to evaluate such impacts. One reason for the lack of data is the absence of the aforementioned mine plans. These plans, which will only be available after sale of the leases, provide the only means to define the exact locations and extent of surface drainage disturbance. Therefore, I find the inclusion of a section describing the effects of the mining on surface water to be misleading. No proper evaluation can be done at this point.

Sincerely,



Robert L. Gold, PE
Hydrologist

for: James F. Daniel
District Chief



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON VA 22092

In Reply Refer To:
EGS-Mail Stop 423

FEB 2 1983

Memorandum

To: State Director, Bureau of Land Management (912)
Santa Fe, New Mexico

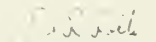
From: Assistant Director for Engineering Geology

Subject: Review of draft environmental statement for New Mexico Generating Station and possible new town, San Juan, McKinley, Cibola, and Sandoval Counties, New Mexico

We have reviewed the draft statement as requested in your letter of November 30.

The analysis of ground water should include the cumulative effects on the Westwater Canyon Member aquifer from withdrawal of 15,000 acre-feet per year for the New Mexico Generating Station and the possible withdrawal of 4,550 acre-feet per year for the proposed New Town. The statement should also address the cumulative effects of the proposed generating station withdrawals of ground water and the pumping in the Crownpoint uranium area.

Inasmuch as runoff from coal-storage piles and coal-processing areas may be discharged into local streams/arroyos as allowed under NPDES standards (Tech. Report 2, p. 2-2D), consideration should be given to monitoring so as to ensure that small discharges do in fact meet NPDES standards.



James F. Devine



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Shiprock Agency
P.O. Box 966
Shiprock, New Mexico 87420

IN REPLY REFER TO:
Economic Development
Land Operations

February 10, 1982

State Director (934 A)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

Thank you for the opportunity to review and comment on the EIS for "New Mexico Generating Station and Possible New Town." After reviewing the document several comments came to mind.

We would recommend as a water supply source for the proposed plant, the diverting of 20,000 acre feet of water from the San Juan River as a first alternative. The second alternative would be supplementing the diverted water with 15,000 acre feet of ground water. We strongly suggest that the 35,000 acre feet alternative from the San Juan River not be used. This alternative would result in a greatly reduced streamflow that may prove detrimental to fish, wildlife and economic development for downstream users in the years to come.

As a water delivery system, we recommend pipeline corridor P1 as the primary choice. If this corridor is not feasible then corridor P2 is recommended.

Transmission line corridors T1 and T2 appear to be the best routes available. Corridor T3 will be more destructive to wildlife habitat than corridor T2. Corridor T4 should be avoided at all costs because of the critical winter mule deer range located along its route. We also strongly suggest that tower construction and placement follow existing Bureau of Land Management guidelines to reduce or eliminate electrocution hazards to raptors.

Another comment concerns surveys for black-footed ferrets. A 100 percent coverage survey should be conducted along the transmission line and pipeline rights-of-way, proposed new town site, proposed plant site and proposed water storage sites. These surveys should be conducted by "qualified" personnel, that is personnel who have had experience with black-footed ferrets and have trained in the most recent ferret survey techniques. Although the last reported ferret sightings for this area are 30 years old we feel these surveys are needed in light of the recent events in Wyoming. Surveys for Mesa Verde cactus should be conducted throughout areas of its potential habitat. Recent surveys in San Juan

County have identified new populations of the species which indicates that more care should be exercised with all projects.

Draw down of water from the San Juan River should be very carefully looked at as the amounts required for the proposed plant and town site could affect the quality of water downstream at any given period of time.

We reserve the right for further review and comment on this proposed project in the future.

If there are any questions or comments regarding our comments please contact us.

Sincerely,



Natural Resource Manager



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Shiprock Agency
P.O. Box 966
Shiprock, New Mexico 87420

IN REPLY REFER TO
Economic Development
Land Operations

February 10, 1983

Mr. Bob Armstrong
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Armstrong:

We appreciate the opportunity to review the draft "San Juan Basin Cumulative Overview" and make a few comments on it.

Table 1-3 on page 1-10 shows "no significant impact" or "no impact" for I & E species. We question if this is true since there is no information on what techniques were used or who conducted black-footed ferret surveys in the areas of any of the proposed sites and corridors. The State of New Mexico has recently proposed additional species for listing as I & E. Among these are Swainson's Hawk, Ferruginous Hawk, Spotted Bat and several fish and reptilian species that maybe affected by the proposed NMGS project. This updated information should be included in this report. This consideration should also be extended to plant species such as the Mesa Verde cactus.

The "no significant impact" on vegetation and water quality in the same table is questionable since the flow of the San Juan River is so variable. Water quality could be affected with a 2 to 3 percent draw down of the daily stream flow salinity of downstream waters could increase and have an adverse effect on agricultural crops as well as native vegetation. This area should be linked into more closely and addressed in the publication. Vegetation in the area of the proposed project sites may be sparse but is important in the role it plays in that particular habitat. Activities could adversely affect the vegetation over a period of time causing the demise of the plants and increase erosional activities. The response of the vegetation to the plant emissions is not known and should be considered before no significant impact or no impact statements are made.

Table 1-6 on page 1-22 indicates that there are 51 raptor nests within five miles and 2 nests within one mile of the project components. This should be looked at to determine if Swainson's or ferruginous Hawks are affected and if there will be adverse effects, then action taken to avoid or reduce this action.

The wildlife field data for the proposed site of the plant and new town, as well as other components should be re-evaluated to determine if any of the 30 newly proposed species of fish, amphibians, reptiles, birds and mammals are affected by the project. These species were recently proposed by the State of New Mexico for the federal list of I & E species.

If you have any questions or comments regarding our remarks please contact us.

Sincerely,
James J. Hansen
Natural Resource Manager



DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT CORPS OF ENGINEERS
P.O. BOX 1780
ALBUQUERQUE NEW MEXICO 87103

REPLY TO
ATTENTION OF

February 23, 1983

Engineering and Planning Division
Planning Branch

Mr. Charles W. Luacher
State Director, New Mexico
Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Dear Mr. Luacher:

As required by the cooperative agreement between our respective agencies, the Albuquerque District has reviewed the Draft Environmental Impact Statement (DEIS) of Public Service Company of New Mexico's Proposed New Mexico Generating Station (NMGS) and Possible New Town. Review of the document was aimed at determining whether or not the DEIS is adequate to fulfill the NEPA requirements of Section 404 of the Clean Water Act.

As stated in my letter of July 12, 1982, the DEIS is generally a very comprehensive document which adequately addresses most of the known and potential impacts of constructing and operating the NMGS. For the purpose of Section 404 of the Clean Water Act, the DEIS adequately addresses all impacts except those dealing with hydrology.

Removal of 35 acres from the 100-year flood plain will require substantial modifications to adjacent areas to keep from raising the 100-year water surface by more than one foot or inducing flooding on adjacent lands. Since this is a foreseeable direct impact of the NMGS, not only is it within the scope of this EIS, but you are mandated by current Council on Environmental Quality regulations implementing NEPA, to include an analysis of the effects and their significance. Without such an analysis, the EIS cannot be adopted for the purposes of a Section 404 permit. Therefore, when a Section 404 application is submitted, it will be necessary to correct the deficiency and recirculate the EIS, first as a draft, and then as a final, before a permit may be issued. This would require a minimum of at least six months to process the permit. We have the following general comments which are aimed at rectifying this problem:

-2-

a. Page 1-33, Table 1-7: Under hydrology, it should be indicated that flooding will be increased in areas both upstream and downstream of the intake structure due to filling of the flood plain. This induced flooding could have significant consequences since the Farmington sewage treatment facilities are located about 2000 feet north of the proposed intake on the north bank of the San Juan River. Also, the acres of mule deer winter range lost to the project is 36 while table 1-8 indicates only 35 acres will be lost. These impacts should also be discussed in the text of the environmental consequences chapter of the EIS.

b. Page 1-38, Table 1-8: This table should compare the two intake locations with respect to induced flood damages. This table should also include acreages which will be disturbed in order to keep from raising the 100-year flood elevation by more than one foot.

c. Table 1-9: This table should reflect the above comment.

d. The EIS should be revised to fully acknowledge flooding which will be induced by the intake as well as the impacts of measures necessary to mitigate the induced flooding and additional destruction of riparian habitat.

e. On July 22, 1982, revised regulations for Section 404 of the Clean Water Act (33 CFR 320-330) were published in the Federal Register. There were some changes to nationwide permits for the discharge of dredged or fill material into waters of the United States, some of which are pertinent to the proposed work. Construction of the proposed pipeline crossings and transmission line crossings may be performed under the nationwide permit for utility lines. However, if temporary structures are to be constructed using material other than that excavated from the trench, so individual Section 404 permit will be required. Discharges into waters above the headwaters may be made under the nationwide permit for discharges into certain waters. There are also nationwide permits for minor road crossings and discharges less than 10 cubic yards. Summaries of the provisions of these nationwide permits are attached for yours and the applicant's information. No reports or statements of intent are required to use nationwide permits. The only requirement is that the person responsible for the project assures compliance with all conditions of the permit. Headwater and jurisdictional boundary maps of the Department of the Army regulatory functions program for the proposed project area are also attached. An individual permit will still be required for the intake structure.

-3-

I hope this problem can be resolved to our mutual satisfaction so that when a Section 404 permit application is submitted, it can be processed without excessive and unnecessary delay due to an inadequate EIS. If you or the Public Service Company have any questions, please write or call Mr. William Tully at (505) 766-2657 or Mr. Andrew Rosenau at (505) 766-2776.

Sincerely,

Jasper H. Coombes
Jasper H. Coombes, P.E.
Chief, Engineering and Planning
Division

2 Attachments

1. Permit
2. Maps



United States
Department of
Agriculture

Forest
Service

Region 3

S17 Gold Avenue, SW,
Albuquerque, NM 87102

Priority 11 1950

Date MAR 18 1983

Mr. Charles W. Luscher
Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Dear Mr. Luscher:

We have reviewed the following documents prepared by the Bureau of Land Management.

1. San Juan River Regional Coal Leasing DEIS
2. Proposed Bisti, De-Wa-Zin, Ah-Shi-Sle-Pah Wilderness Areas DEIS
3. New Mexico Generating Station and Possible New Town DEIS
4. Draft San Juan Basin Cumulative Overview

Although you are still in the extended public review and comment period, which now ends on April 8, 1983, we have no further comments or recommendations for these documents. We have also reviewed several technical reports on subjects which might have had an impact on National Forest System lands in Region 3.

As a cooperating agency, we appreciate the opportunity to review the many documents sent to us. You should be commended for your efforts in this endeavor.

Sincerely,

James C. Overbat
JAMES C. OVERBAT
Deputy Regional Forester



FS-4200 (11-8-82)

2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270

March 25, 1983

Charles W. Luscher
State Director
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

We have completed our review of the Draft Environmental Impact Statement (EIS) and Cumulative Overview entitled "San Juan River Regional Coal". The statement discusses associated environmental and social impacts of proposed competitive leasing of mineable Federal in-place coal reserves within McKinley, Valencia, and Sandoval Counties, New Mexico.

The following comments are offered for consideration:

1. The Draft EIS identifies four levels of competitive leasing of Federal coal reserves for the San Juan River Basin. These include: the Bypass Plan, the Minimum Surface Owner Conflicts Alternative (MSOC), the Target Plan, and the High Level Alternative. In view of the related project impacts identified in the statement, we find the Bypass Plan to pose the least amount of potential environmental impact in comparison to the other competitive leasing alternatives. However, it is understandable the Bypass leasing scenario was not selected as the preferred leasing level on the basis of unrealistically restricting the targeted leasing objective of 1.2 billion tons to only 129 million tons of Federal coal reserves.

Taking these factors into account, we suggest the Bureau of Land Management (BLM) consider adoption of the MSOC Alternative. Under this leasing scenario, Federal in-place coal reserves could reach 916 million tons. We believe the MSOC Alternative will provide optimum conditions for environmental protection while allowing a reasonable level of availability of Federal in-place coal reserves for future resource development in the San Juan River Basin.

2. The EIS needs to clarify the statement on page 3-7 regarding the Prevention of Significant Deterioration (PSD) baseline. According to our records and discussions with the New Mexico Environmental Improvement Division, PSD baselines have been triggered in affected Air Quality Control Regions (AQCR) 014 and 156. Therefore, BLM should recognize that future mining activity and its associated fugitive particulate emissions will consume increment. In all likelihood, most of the particulate increment (24 hour and annual) in areas closest to the mines will be consumed. The EIS should discuss the impact of this on future industrial growth within the affected areas.

Since New Mexico has received delegation of the PSD technical evaluation responsibilities, the Air Quality Section of the New Mexico Environmental Improvement Division should be most helpful in providing further technical assistance and consultation in these areas. We suggest that their input and recommendations be included in the Final EIS.

3. In reference to page 2-49, paragraph 4, we suggest that the following perennial stream segments be included in the Final EIS for mining impact analysis. These include: Segments 2-107 (Rio San Jose); Segments 2-402 (La Plata River); and Segments 2-407 (Navajo and Los Pinos Rivers).
4. We understand and recognize that ultimate leasing levels with respect to this specific coal region are and will continue to be subject to uncertainties of actual coal demand, the economic market, and acceptability of the applied mining technologies. Because of these uncertainties, we believe the actual development of coal leases will be best determined through subsequent evaluations on a case by case basis through both Federal and State reviews of selected mining plans and site specific environmental analysis developed pursuant to appropriate coal management regulations. For these reasons, we considered the competitive leasing scenarios as addressed in this EIS to be generic in both scope and relative environmental impact evaluation.

We classify your Draft EIS as LD-2. Specifically we have no objection to the adoption of the Minimum Surface Owner Conflicts Alternative for competitive leasing. The statement contained sufficient information at this planning stage to evaluate the possible environmental impacts. However, we are requesting additional information as specified in the above comments. Our classification will be published in the Federal Register in accordance with our responsibility to inform the public of our views on Federal actions under Section 309 of the Clean Air Act.

Definitions of the categories are provided on the enclosure. Our procedure is to categorize the EIS on both the environmental consequences of the Federal action and on the adequacy of the EIS at the draft state, whenever possible.

We appreciate the opportunity to review the Draft EIS. Please send our office five copies of the Final Statement at the same time it is sent to the Office of Federal Activities, U.S. Environmental Protection Agency, Washington, D.C.

Sincerely yours,

John E. Phillips
 Dick Whittington, P.E.
 Regional Administrator

Enclosure

ENVIRONMENTAL IMPACT OF THE ACTION

LO - Lack of Objections

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER - Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to re-assess these aspects.

EU - Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

ADEQUACY OF THE IMPACT STATEMENT

Category 1 - Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 - Insufficient Information

EPA believes the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3 - Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement. If a draft statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make a determination.



United States Department of the Interior BUREAU OF INDIAN AFFAIRS

IN REPLY REFER TO

March 16, 1983

Memorandum

TO: State Director, Bureau of Land Management
 FROM: Area Director, Navajo Area Office, Bureau of Indian Affairs
 SUBJECT: San Juan River Regional Coal Environmental Impact Statement

This memorandum will set forth some of the concerns of the Bureau of Indian Affairs in reviewing your draft EIS of November 1982. This document correctly recognizes that even under the "no action" alternative, large numbers of Navajo people will be directly and adversely affected. At page 1-36, you state:

One of the major issues for this EIS is the relocation of the American Indian families occupying the PRLA Area and adjacent competitive tracts; the social implications involved in relocating these people of traditional life styles are of concern. Every alternative would affect a certain number of known Navajo occupants, the largest increase occurring between the Target and High Alternatives.

Implicit in the draft EIS is the assumption that in almost all instances, Navajo occupants will be relocated, with or without their consent in order to facilitate coal mining. While the Bureau of Indian Affairs fully supports the objective of facilitating coal production, we question whether a program which entails relocation of hundreds of traditional Navajos has a realistic chance of achieving this Department's objectives. Two concerns which are immediately apparent involve the media attention likely to be focused on the Secretary in this effort; and, secondly, the availability of legal recourse on a wide variety of plausible theories, any one of which might succeed in thwarting the Department's

efforts.^{1/} In this respect, the experience of the Star Lake Railroad should not be lost upon us.

In our view, the Department ought to proceed from the premise that existing Navajo occupants of public and private lands will not be involuntarily located at the behest of this Department. Rather, the role of the Department ought to be to facilitate voluntary arrangements between Navajo occupants and lessees. In pursuit of such a policy, there is a great deal which the Bureau of Indian Affairs, together with your agency, could do to facilitate such agreements. We could provide interpreters, give technical assistance to both parties, and suggest appropriate arrangements. Under this approach, the expenses of relocation would be borne by the private sector rather than the Department. I attach a proposed lease term which I believe should be included in every lease, both PRLA and competitive, which would embody this policy.

Our position is prompted not only by humanitarian and pragmatic concerns, but also upon a review of long standing Departmental policy. For a century, the Department of the Interior has had an announced policy of protecting lands occupied by Indians. 43 CFR §2091.5 entitled, "Lands Occupied by Indians," provides:

Authorized officers will ascertain by any means in their power whether any public lands in their districts are occupied by Indians and the location of their improvements and will suspend all applications made by others than the Indian occupants, upon lands in the possession of Indians who have made improvements of any value whatever thereon.

We have traced this policy back to 1884, where it is embodied in a Departmental Circular approved by Secretary Teller entitled, "Land in the Possession of Indian Occupants." 3 L.D. 371 (May 31, 1884). This was followed by a Directive at 52 I.D. 394. This regulation appeared in the 1938, 1949, and 1954 versions of 43 CFR §176.20. All of us are bound by these Directives.

^{1/} For example, 43 CFR §2091.2-1 arguably required BLM to reject applications for mineral permits to land allotted to Indians--at least with respect to surface coal mining; the reservation of coal rights by the United States in trust patents issued prior to the development of surface mining technology may not include the right to surface mine; and 43 CFR §2091.5 may protect Indian occupants of public lands from any dislocation attendant to mining activity.

It is not necessary for us to determine the question of whether the filing of Preference Right Lease applications prior to the 1976 Coal Leasing Act amendments and the acceptance by your office of such applications without regard to 43 CFR §2091.5 was legally valid. Nor is it necessary for us to determine the legal effect of the designation by your office of competitive coal areas and a proposed sale of coal leases in September of 1983 without regard to §2091.5. I understand that your attorneys have told you that §2091.5 does not apply to subsurface leases. It is my view, however, that it is in the best interest of our Department to try to avoid having that issue resolved by the courts. This can be achieved, again, through my proposal for obtaining consent of all Navajo occupants.

Whether or not you agree with the approach I am outlining, I respectfully request the attached provision be included in your final EIS as an alternative lease term which the Secretary may adopt or reject.


Area Director

-3-



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Field Supervisor
Ecological Services, USFWS
Post Office Box 4487
Albuquerque, New Mexico 87196

April 6, 1983

Memorandum

To: State Director, Bureau of Land Management, Santa Fe, New Mexico

From: Acting Field Supervisor, FWS, Ecological Services, Albuquerque, New Mexico

Subject: Draft Environmental Impact Statement, Public Service Company of New Mexico's Proposed New Mexico Generating Station, San Juan County, New Mexico (BLM)

We have reviewed the subject document and have the following comments to submit.

GENERAL COMMENTS

Threatened and Endangered Species

Consultation with the Fish and Wildlife Service (FWS) required by the Endangered Species Act of 1973 has been initiated by the Bureau of Land Management (BLM). Consultation will be completed following receipt of BLM's biological assessment and final determinations of effect on threatened or endangered species. Discussion of threatened and endangered species in the EIS would be improved with the following changes.

1. The determination of "no effect" to the endangered bald eagle (Page 5-8, Table 1-8 and Page 3-15) should be changed to "may affect." Impacts to wintering bald eagles may occur due to water diversions, increased human disturbance and recreational use at Navajo Reservoir, and the San Juan, Animas, and La Plata Rivers. Increased demand for social and economic developments may also result in impacts to this species. Discussions of impacts to bald eagles (Pages 3-15 and 3-32) should be expanded to include these concerns.
2. Pages 2-13, 2-14, 2-37, and 2-38 do not mention the black-footed ferret or its potential habitats at New

EXHIBIT A

BIA PROPOSED LEASE PROVISION

The lease contains occupied dwellings (farmsteads, grazing lands, etc.) shown in the attached exhibit. An area within 300 feet of the exterior boundaries of the occupied land is unsuitable for surface coal mining unless the lessee receives written permission from the occupant or owner allowing surface coal mining operations and approval of such permission by the Area Director, Bureau of Indian Affairs, Navajo Area Office. In addition, the lessee shall provide for ingress and egress to the occupied land. Where the lessee and the occupant desire to conclude a relocation agreement, they may call upon the Eastern Navajo Agency, Bureau of Indian Affairs, to facilitate relocation arrangements.

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Mexico Generating Station (NMGS) or along pipeline corridors. If surveys to determine potential habitats have been conducted, this should be clearly stated.

3. Discussions on Pages 2-15, 2-37, 2-39, and 2-41 through 2-44 should be expanded to describe surveys to locate the threatened Mesa Verde cactus. If surveys to locate the cactus at NMGS and the reservoir site have not been conducted, Page 3-15 should discuss potential effects.

4. Page 3-57 discusses the need for specific surveys to locate threatened or endangered species and recommends measures to avoid impacts. This discussion should also indicate that if new information becomes available on species occurrence or on potential impacts to species, BLM will reinstate consultation with the FWS as required by Section 7 of the Endangered Species Act.

Water Supply

The FWS continues to recommend that the diversion point for NMGS water supply be located as far downstream on the San Juan River as possible in order to insure instream flows and protect aquatic habitat values. Thus, the FWS endorses the Farmington diversion point (Page 1-17) rather than the diversion point near Bloomfield.

Discussions on Pages 2-38, 3-32, and 3-33 pertaining to diversion of up to 48 cfs of water from the San Juan River, attempt to minimize the impact of diverting water from the river. Stream flows are of critical importance to the aquatic and riparian habitats of the San Juan River. This is particularly true during low flow periods and in the future, when flows may be depleted by full utilization of water for municipal, industrial and private purposes. The FWS recommends use of ground water sources in the vicinity of NMGS (Page 1-17).

Recreation

Discussions regarding recreation on Pages 2-22, 2-24, 3-58, 11-3, 11-4, 11-4 and C1-7 do not consider consumptive (hunting and fishing) and nonconsumptive (observation and photography) fish and wildlife values. One area of particular concern, for example, is the San Juan River high quality fishlog water (Pages 3-15 and C1-7). This reach of the river is presently experiencing overuse. New Mexico Generating Station, New Town and other energy related developments are expected to increase recreational use in the San Juan Basin by up to 18 percent (Draft San Juan Basin Cumulative Overview, Page 3-22). Chapter 3 should include discussions of fish and wildlife related recreation and suggested mitigative measures to meet increased recreational demand.

Mitigation

The FWS endorses the mitigation recommendations made in the sections on Hydrology (Page 3-54), Water Quality (Page 3-54), Vegetation (Page 3-56), Wildlife and Aquatic Biology (Page 3-56), and Recreation (Page 3-58). Review of Chapters 1-3 revealed a need for several additional fish and wildlife resource recommendations:

1. The employee information program (Page 1-30) could be expanded to include information on protected wildlife species and illegal shooting. Additionally, the program could provide information to employees about sensitive wildlife species and prevention of unnecessary human disturbance.
2. Public affairs personnel could provide information on hunting and fishing opportunities and advise employees to use less-crowded areas (Page 1-30).
3. The NMGS storage reservoir offers a unique opportunity to create a sport fishery in an area where sport fishing is limited. Creation of a public fishing area at NMGS may divert some projected future use from present fishing areas. In any event, PNM should regulate public use of the reservoir area to prevent illegal shooting of waterfowl and shorebirds.
4. Page 3-55 discusses potential water quality monitoring. Evaporation ponds and liquid waste discharge pits should be monitored for bird and small mammal mortality. If losses occur, remedial measures such as screens or fences should be constructed to prevent continued losses.
5. Disturbance of riparian vegetation should be minimized during construction of the San Juan River diversion structure, and any disturbed areas should be revegetated.

SPECIFIC COMMENTS

Agency's Preferred Alternatives, Page S-10 through S-11. The FWS endorses BLM's preferred alternatives including diversion of water from the San Juan River at the Farmington site, storage of water at reservoir site one, use of pipeline route one and transmission lines that avoid mule deer and elk habitat. In addition, PNM should be encouraged to use ground water in the vicinity of NMGS.

Possible New Town, Page S-11. The FWS does not favor development of New Town. Primary and secondary adverse impacts to wildlife resources would be increased significantly by this development. We strongly favor the accommodation of NMGS workers in the Farmington area with PNM providing transportation to and from the NMGS.

flood protection, additional riparian vegetation will be disturbed. These impacts can be mitigated by preventing unnecessary losses of riparian vegetation and revegetation with riparian species.

Suggested Mitigation and Monitoring Programs, Vegetation, Page 3-56. FWS is pleased to note the recommendation to monitor soil and water chemistry of sensitive high elevation landscapes for the purpose of detecting acidifications. However, there is insufficient data in the draft EIS to justify limiting study to areas northeast of the project area. Consideration should also be given to inclusion of the Jemez Mountains of north central New Mexico in these studies.

SUMMARY COMMENTS

The FWS has reviewed the draft EIS and proposed actions. Additional information is required to complete Section 7 consultation requirements of the Endangered Species Act. A "may affect" determination should be made for potential impacts to the bald eagle. Additional discussions of fish and wildlife recreation should be added to the draft. The FWS endorses mitigation as presented in the draft and suggests five additional measures. With incorporation of the above general and specific comments the draft EIS will adequately consider fish and wildlife resources.

The opportunity to provide comments is appreciated. If you need further assistance please contact our office.



John G. Peterson

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Director, FWS, AEW, SE, Albuquerque, New Mexico

Table 1-1, Page 1-5. Another consideration that should be listed in Table 1-5 is compliance with the Fish and Wildlife Coordination Act. This Act requires coordination with FWS and the State Wildlife Agency when Federal actions permit water development (16 U.S.C. 661 et seq.).

Transmission System, Structures and Towers, Proposed Action, Page 1-20. The EIS mentions "other environmentally sensitive areas"; for wildlife species these include riparian vegetation, raptor nest sites and any other unique habitat features.

Direct Impacts, Acid Precipitation, Page 2-2. A short discussion of prevailing wind direction and velocity and other atmospheric conditions would assist the reviewer in understanding the potential for regional acid precipitation. Map 2-1 on Page 2-4 should be expanded to further define the extent of the San Juan air basin in Arizona, Utah, Colorado, and New Mexico.

Wildlife, Page 2-13. No mention is made of non-endangered aquatic resources that occur in high mountain lakes and streams of New Mexico and Colorado. Coldwater fisheries in these states are important recreation resources and the potential for acid precipitation impacts should be addressed.

Wildlife, Page 2-34. The importance of riparian and wetland habitats for wildlife species, particularly migratory waterfowl and passerine birds, should be discussed.

Wildlife, Page 3-15. The discussion indicates 2,400 acres of non-game wildlife habitat would be removed at NMGS. Wildlife habitat at the NMGS is not uniquely different from surrounding habitat; however, vegetation at NMGS does support dove and quail, which are considered game species (see Pages 3-12 and 3-13, Wildlife and Aquatic Biology Technical Report). The potential for acid precipitation to impact high mountain lakes and rivers in Colorado and New Mexico is documented for the endangered greenback cutthroat trout. However, the potential to impact other regionally important fishery resources is not discussed. These potential impacts should be fully described in the EIS.

Water Supply System, Alternate 1, Wildlife, Page 3-30. The draft EIS indicates that ground water pumping may reduce flows in several springs in the Chuska Mountains, and that vegetation and wildlife which depend on those springs, may be impacted. We suggest that you contact the Bureau of Indian Affairs and Navajo Fish and Wildlife Department regarding wildlife values and mitigation recommendations.

Vegetation and Wildlife, Page 3-32. The design and operation of this diversion structure could result in added impacts to riparian vegetation. If the diversion structure causes bank erosion or requires additional



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Field Supervisor
Ecological Services, USFWS
Post Office Box 4487
Albuquerque, New Mexico 87196

April 6, 1983

Memorandum

To: State Director, Bureau of Land Management, New Mexico
State Office, Santa Fe, New Mexico

From: Acting Field Supervisor, FWS, Ecological Services,
Albuquerque, New Mexico

Subject: Review of Draft San Juan River Regional Coal Environmental
Impact Statement, San Juan and McKinley Counties, New
Mexico (BLM)

This memorandum provides our review comments on the draft EIS. On July 17, 1981, the Fish and Wildlife Service (FWS) provided comments on the draft Environmental Assessment for the Preference Rights Leasing Applications (PRLA). Scoping inputs on the subject EIS were provided on April 16, 1982, and review comments on your preliminary draft EIS were provided August 13, 1982.

GENERAL COMMENTSThreatened and Endangered Species

Section 7 consultation required by the Endangered Species Act of 1973 has been completed. The FWS issued a Biological Opinion on the proposed coal leasing on March 17, 1983. Consultation actions have taken place since the draft EIS was distributed for review, and the EIS should be updated to clarify these actions.

1. Chapter 2 of the EIS (Pages 2-24 and 2-25) should be expanded to describe existing habitat in the coal region for the bald eagle and Mesa Verde cactus. In addition, potential habitats in the PRLA and lease areas for the black-footed ferret and Mesa Verde cactus should be described. A table listing state and Federal endangered plant and animal species, their existing and potential habitats, and determinations of effect would assist the reader.

2. Chapter 3 (Pages 3-12, 3-41, 3-54, 3-55, 3-56, 3-57, and 3-69) should include discussions of impacts or potential impacts to threatened or endangered species. Secondary

and cumulative effects due to coal mining, related projects, and increased human populations should also be considered.

3. You may wish to include the following documents in Appendix D-1: FWS's June 3, 1982 list of species; FWS's December 13, 1982 comments on the Biological Assessment; and the FWS's March 17, 1983 Biological Opinion.

4. Application of Unsuitability Criterion number 9 pertaining to endangered species should be clarified on Pages 1-13, A-71 and A-72. Full application of Criterion number 9 has been deferred due to the lack of survey data. Pages 3-1 and A-73 should mention appropriate stipulations requiring endangered species surveys and compliance with the Endangered Species Act of 1973.

Unsuitability Criteria Numbers 9, 11, 12, 13 and 14

The FWS has cooperated with BLM in applying appropriate Unsuitability Criteria. Page 1-13 provides a brief description of these activities. The following suggestions would help to clarify the applications of the Criteria to the PRLA's and proposed coal tracts:

1. A table should be added to display the number of each Unsuitability Criterion, title of the Criterion, cooperating agency and summary of progress to date. This would help to clarify the status and application of each Criterion.

2. Language on Page 1-13 indicates that the FWS has consulted on some Criteria that do not concern fish and wildlife resources. This should be clarified in the EIS.

3. Criterion number 9 has not been fully applied due to a lack of survey data for threatened and endangered species.

4. The responsibility of BIA to apply Unsuitability Criteria to Indian lands should be explained. In addition, the opportunity to apply Criteria during mine planning stages should be explained.

5. Tables 1-5, 3-5, A-7 and A-8 may not include all results of applications of Unsuitability Criteria numbers 11, 13 and 14. (see comment on Nesting Sites for Eagles, Falcons and Wildlife Species of High Federal Interest). Pages 3-1, A-71 and 72 should be clarified to indicate how additional survey data for Unsuitability Criteria will be incorporated into leases and mine plans.

Nesting Sites for Eagles, Falcons and Wildlife Species of High Federal Interest

Fish and Wildlife Service records indicate that one additional ferruginous hawk nest may be impacted by issuance of PRLA's and that one additional ferruginous hawk and one additional golden eagle nest occur on proposed coal tracts. The tables on Page A-75 should be corrected to include these nests as well as the additional buffer zones needed for protection. For your convenience we have redrafted the tables.

APPENDIX A-7 BIRDS OF PREY HABITAT WITHIN THE PRLA AREA

BLM Nest Inventory Number	Species	Applicable Unsuitability Criteria Number	Acres Needed for Protection	PRLA No.	Type of Mine
4A-4B	Ferruginous Hawk	14	253	NM 3835	Surface
5	Ferruginous Hawk	14	480	NM 3919	Surface
6A-6B	Ferruginous Hawk	14	400	NM 3919	Surface
22, 24	Ferruginous Hawk	14	280	NM 11916	Underground
20	Prairie Falcon	13	160	NM 3834	Underground
33-34	Ferruginous Hawk	14	280	NM 3834	Underground

APPENDIX A-8 BIRDS OF PREY HABITAT ON COAL TRACTS OUTSIDE THE PRLA AREA

BLM Nest Inventory Number	Species	Applicable Unsuitability Criteria Number	Acres Needed for Protection	Tract	Type of Mine
19	Ferruginous Hawk	14	360	Dist #4	Surface
14	Golden Eagle	11	200	Johnson Trading Post	Surface
25	Ferruginous Hawk	14	400	Hospah	Surface
29	Golden Eagle	11	280	Nageezi	Underground

The draft EIS should be changed to reflect the number of nests impacted and the number of acres needed to protect nests (Pages VIII, IX, X, 1-25, 1-29, 2-25, 3-13, 3-31, 3-37, 3-42, 3-46 and 3-53). Stipulations may be required on PRLA numbers 3834, 3835, 3919, and 11916 to protect nests from mining impacts. Adjustments to the Hospah and Nageezi Tracts may be required to protect nests.

Aquatic Habitats

Surface waters in lease areas are described on Pages 2-49 through 2-55 and in Table 3-19, Page 3-30. Pages 3-29, 3-37, 3-41, 3-46, and 3-61 indicate that up to 38 reservoirs and one spring will be impacted by mining. Water for wildlife in the San Juan Coal Region is scarce. Intermittent streams and ponds and associated vegetation provide important wildlife habitat. The San Juan and La Plata Rivers are important to migratory birds, wintering bald eagles and other fish and wildlife. Impacts to intermittent and permanent waters and associated wildlife habitats should be considered in mine planning. Reclamation for individual mines should include development of wildlife habitat adjacent to reclaimed drainages and around siltation basins and ponds.

Fishing and Hunting Recreation

The draft EIS discusses recreation in the coal lease areas and in the San Juan Coal Region in general (Pages 2-30, 3-54, 3-67, and 3-70). A portion of the recreation demand is provided by fishing and hunting opportunities in the coal region. Mining with the potential to remove 100,611 acres of small-game habitat may reduce available dispersed hunting opportunities. Additional impacts due to human population growth may result in increased recreational demand and overuse of areas such as the San Juan River high quality fishing area and Navajo Lake.

Increased human populations and consequent social and economic developments may reduce wildlife habitat in and around area cities. Mitigation and enhancement of wildlife habitats should be considered to offset direct impacts of mining, provide additional fishing and hunting opportunities, and satisfy projected recreation demands. This is particularly important due to projected increases in recreation as presented in the BLM's San Juan Cumulative Overview Document (Table 3-5, Page 3-22). Wildlife habitat reclamation and adequate post mining management of vegetation and wildlife habitat will enhance long-term productivity of public lands and provide wildlife resources for recreation use.

Mitigation

The FWS endorses the mitigation measures presented on Pages 3-50 through 3-53 and 3-63. Additional fish and wildlife mitigation measures that should be considered include the following:

1. Fences at coal mine reclamation areas should be retained to enable BLM managers to properly manage post-mining grazing and maintain quality wildlife habitat.
2. Use of siltation ponds to prevent erosion and enhance wildlife habitat at coal mines should be encouraged. Ponds should be maintained to improve livestock and wildlife values following abandonment of the mines.

3. Hunting on all coal leases should be regulated. Access by off-duty mine employees or others should be controlled.

4. Emphasis should be placed on creation or replacement of wildlife habitat features such as rock piles, cliffs, raptor nesting and perching sites, riparian vegetation and water areas. Plans for these features can be considered during mine plan development and review.

5. Mine employees should be provided company transportation from area cities to mines to reduce wildlife road kills and illegal shooting of wildlife. In addition, providing transportation would reduce the need for local housing developments and associated secondary impacts to wildlife.

6. The cumulative impacts of hunting and fishing activities due to human population growth are projected for the San Juan Region. Plans should be formulated by BLM and other agencies to prevent potential overuse in areas such as the San Juan River high quality fishing waters. Recreation management plans should be developed by managing agencies.

7. During mine planning and development stages FWS biologists will continue to cooperate with land managing agencies and the coal industry in developing adequate wildlife mitigation and enhancement measures.

SPECIFIC COMMENTS

Surface Mine Reclamation, Page 1-15 through 19. The FWS will continue to offer assistance to BLM, OSM, BIA and the coal industry during mine planning stages to develop wildlife reclamation measures and to insure compliance with wildlife related laws and regulations.

Major Issues, Wildlife, Page 1-20. Our scoping inputs also emphasized reclamation of wildlife habitat values, compliance with Section 7 of the Endangered Species Act, secondary impacts to fish and wildlife resulting from increased population, consequent social and economic developments, and mining impacts to intermittent and perennial aquatic habitats.

Inter-relationships with other Projects in the Region, Pages 1-21 through 1-23. The draft EIS does not mention the proposed New Mexico Generating Station, New Town, or the BLM proposal to designate the Bisti and De-na-si Wilderness Study Areas as wilderness. These projects are closely related to coal developments and should be discussed.

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Threatened, Endangered or Special Interest Plants, Page 2-24. The draft EIS should discuss potential habitat for the Mesa Verde cactus, which is Federally listed as threatened.

Analysis Framework, General Page 3-1. Because the draft EIS is intended to analyze the impacts of mining entire tracts regardless of ownership, BLM should consider withdrawing the buffer zone for the active ferruginous hawk nest located on the Hoapah Tract.

Assumptions and Analysis Guidelines, Page 3-2. We commend BLM for including wildlife as a post-mining land use (see specific comment Surface Mine Reclamation, Page 1-15 through 1-19).

Impacts, Target Alternative, Wildlife, Page 3-42 and High Alternative, Wildlife, Page 3-46. Big game (deer) habitats may be affected by coal mining in the Twin Buttes, Pinehaven and Bread Springs Tracts. These habitats should be considered in the discussion of wildlife impacts.

Appendix A-4, Page A-61. Other pertinent Acts that should be included under the wildlife category are the Surface Mining Reclamation and Control Act and Migratory Bird Treaty Act.

SUMMARY COMMENTS

The opportunity to provide comments on this draft EIS is appreciated. With incorporation of our general and specific comments, the EIS will adequately consider fish and wildlife resources. The FWS urges continued close coordination in coal mine planning. Adequate implementation of fish and wildlife measures and post-mining management of vegetation and wildlife resources will minimize the effects of coal development in the San Juan River Regional Coal area on fish and wildlife resources.


John C. Peterson

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Director, FWS, AEW, SE, Albuquerque, New Mexico



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Field Supervisor
Ecological Services, USFWS
Post Office Box 4487
Albuquerque, New Mexico 87196
April 8, 1983

Memorandum

To: State Director, Bureau of Land Management, New Mexico
State Office, Santa Fe, New Mexico

From: Acting Field Supervisor, FWS, Ecological Services,
Albuquerque, New Mexico

Subject: Review of Draft San Juan Basin Cumulative Overview Report,
San Juan and McKinley Counties, New Mexico (BLM)

The Fish and Wildlife Service (FWS) has reviewed the draft Cumulative Overview and Cumulative Overview Technical Report. The documents indicate cumulative impacts will occur to recreation resources and wilderness values due to energy development and related projects in northwestern New Mexico.

Direct and indirect effects to fish and wildlife habitats will result from cumulative demands in housing, water supply, transportation, recreation, and other economic developments.

Specific Comments:

Scope Of The Analysis, Pages 1-7 through 1-32. The description of the impacts would be more clear if common assessment units such as acres of habitat and acre-feet of water were presented for each alternative. This would assist the reader in understanding the magnitude of potential impacts.

Table 1-3, Page 1-10; Table 1-6, Page 1-20 and Table 1-7, Page 1-25. The tables do not mention the New Town proposal. Cumulative impacts to habitat, water resources, recreation, and wilderness values may result from New Town and should be discussed.

Recreation and Wilderness Resources, Page 2-21. The Navajo Lake State Park is listed as one of the regionally important recreation areas. Another fishing area, San Juan River quality trout water, is also important for recreational fishing. The importance of the San Juan River should be discussed in the draft.

The discussion does not mention hunting in northwestern New Mexico. Significant population increases will increase hunting demands for deer, waterfowl, and other species. Increased demand will result in decreased hunting quality and possibly reduced numbers of animals for harvest.

2

Suggested Mitigation, Page 3-25. Item four addresses increased fish stocking programs. Additional stocking may be required in other waters than the quality fishing waters. Provisions for additional public access on the San Juan and Animas Rivers would alleviate overuse in the quality water portion of the San Juan River. Coordination with New Mexico Department of Game and Fish is encouraged to arrange adequate stocking programs.

Additional mitigation recommendations that should be considered include:

1. The BLM should coordinate with the Bureau of Reclamation, New Mexico Department of Game and Fish, New Mexico Parks and Recreation Department, and the FWS to develop a recreation plan for the San Juan River. The plan should include monitoring of recreation use. Additional camping facilities, fisherman access, recreation vehicle parks, and other recreation needs should be considered. Implementation of a recreation plan would help to mitigate effects on the fishery as well as impacts to the riparian and aquatic resources on the San Juan River.

2. Mitigation should be considered for cumulative impacts for hunting. These mitigation needs may include increased emphasis on habitat management and should be closely coordinated with the New Mexico Department of Game and Fish.

3. The cumulative overview indicates wilderness areas will be impacted due to increased public use. However, no mitigation is proposed to address these impacts. As mitigation, BLM should consider implementing appropriate restrictions to prevent overuse. Management measures could include road closures, reductions in access points, issuing special use permits, and limiting use near raptor nests or during nesting periods.

The opportunity to provide comments is appreciated.


John C. Peterson

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Director, FWS, Office of Environment, Albuquerque, New Mexico



United States Department of the Interior

NATIONAL PARK SERVICE

SOUTHWEST REGION

P.O. Box 724

Santa Fe, New Mexico 87501

IN REPLY REFER TO:

L7619(SWR-PL)

Memorandum

To: State Director, Bureau of Land Management, Santa Fe, New Mexico
Attention: Leslie Cone, Project Manager

From: Associate Regional Director, Planning and Cultural Resources,
Southwest Region

Subject: Review of Bureau of Land Management San Juan Basin Environmental
Impact Statements

The following are the combined comments of the Air Quality Division, Denver, and this office. The comments are broken down according to each draft environmental impact statement and addresses possible effects on National Park Service areas of administration and management.

San Juan Regional Coal Environmental Impact Statement (DES 82/76). There are two major issues which are inadequately addressed in the document. These issues are the predictions that State Ambient Air Quality Standards (AAQS) will be exceeded by each alternative except the no-action alternative and the failure of the document to address the significant question of the Clean Air Act's Prevention of Significant Deterioration (PSD) Class II increments. While these are the major concerns, we have also included some page-by-page comments as well.

The Air Quality Technical Report provides the reader with significant background in air quality and a good sense of how the studies were conducted. However, the analysis in the draft environmental impact statement (EIS) based on that information is especially deficient in that it does not provide a decisionmaker or the lay reader with a real sense of what "worst case" analysis means. It does not provide an analysis showing what the potential emissions could be if mitigation measures were to be applied. Specific mitigating measures are not provided, nor is there any quantification of the percent reduction in TSP emissions that could be anticipated using specified techniques. If, for example, road paving for haul roads would reduce emissions of TSP by an amount sufficient for specified mines to meet AAQS and PSD Class II increments, it should be proposed as a potential lease stipulation so that potential lessees will know, prior to lease issuance, that the costs for lease development will include road paving. This is only an example, but it demonstrates the degree to which the EIS analysis is unsuccessful in translating technical air quality information into terms understandable to the public and decisionmakers.

Page 3

We believe that, according to the law, this would not allow the issuance of a permit to any major new stationary source which would add further to particulate emissions. This includes Public Service Company of New Mexico's (PNM) New Mexico Generating Station.

When PNM applies for a permit, under the section of law preventing significant deterioration, which it must do in this Class II area, that permit will not be issued unless it can demonstrate that emissions from the facility will not be in excess of the maximum allowable concentrations more than once per year (Section 165(A)(3)).

When considering if an applicant's facility will consume all or part of the increment of allowable degradation, in no case shall their proposed emissions exceed a concentration equal to the Secondary National Ambient Air Quality Standards (Section 163(b)(4)).

The Secondary National Standards and the State of New Mexico Standard are both 150 $\mu\text{g}/\text{m}^3$. With anticipated coal mine sources resulting in an ambient level of 234 $\mu\text{g}/\text{m}^3$, there is simply no way the allowable increment of increase can be used.

For example, let us presume a baseline concentration in the San Juan Basin is 39 $\mu\text{g}/\text{m}^3$, the mines add 90 $\mu\text{g}/\text{m}^3$ to that for 129 $\mu\text{g}/\text{m}^3$, and the allowable Ambient Air Quality Standard is 150 $\mu\text{g}/\text{m}^3$. The Class II allowable increase increment is 37 $\mu\text{g}/\text{m}^3$ (Section 163(3)(2)), but you can only use 21 of that increment. Why? Because Section 163(b)(4) does not permit the use of an increment or portion thereof if it will exceed the Ambient Air Quality Standard.

In the real case of the San Juan Basin, the particulate Ambient Air Quality Standard will be so far exceeded, by the Bureau of Land Management's own estimate, that there would be no possibility of using any increment.

If the State chose to redesignate the areas as Class III, the maximum allowable increase for 24-hour particulate concentrations would be 75 $\mu\text{g}/\text{m}^3$. Nonetheless, since the predicted actual ambient levels of this pollutant are already in excess of the NAAQS, this 75 $\mu\text{g}/\text{m}^3$ increment would not be available for use.

The only way to issue a permit for a facility, like the New Mexico Generating Station, which would add in any measurable way to particulate pollution, would be to redesignate the area as non-attainment. The facility would be required to have the lowest achievable emissions rate (Section 173(2)). Also, the designation of non-attainment would bring into play several requirements regarding the State Implementation Plan, deadlines, etc.

Under this scenario, if the coal mines are permitted first, the coal mines may not be in violation of the Clean Air Act. But to issue a permit for the power plant, given the coal mines' emissions, would violate prohibitions designed to guard against significant deterioration of air quality.

If we consider the scenario where the generating station is to be permitted first, then to the baseline concentration of c. 39 $\mu\text{g}/\text{m}^3$ TSP, that facility could add 37 $\mu\text{g}/\text{m}^3$. The draft power plant EIS predicts the use of 13-27 $\mu\text{g}/\text{m}^3$ of this increment.

Page 4

The draft document predicts that the AAQS will be violated by each of the action alternatives; and while these predictions are presented as significant effects, no explanation is given for what those violations could mean to future development of the leases. The Clean Air Act and its regulations make it clear that future air permits cannot be issued if operations would violate national and State AAQS, unless prospective operators can obtain emission offsets. This may not pose difficulty to those who immediately go about obtaining permits; however, those who delay may find themselves unable to obtain permits to mine. Because this could affect the investment decisions of potential lessees, the draft should provide further information and analysis on the import of the significant effects predicted.

Further, the draft appears to assume that analysis of PSD increments is unnecessary for coal mines. All areas of the country which are neither Class I nor non attainment areas are PSD Class II, including the EIS study region. On page 2-2 of the draft, it is stated that emissions from surface coal mines "seldom exceed" the 250 T/yr. threshold for analysis under PSD. The analysis does not address the characteristic (size, mining method, etc.) which would result in surface mine emissions exceeding 250 T/yr. However, even if the mines do not require PSD permits, their emissions do consume increment.

The Class II PSD increment of 37 mg/m^3 is an absolute standard and one for which a waiver cannot be obtained. Once the PSD baseline has been triggered (as it most probably will be by the New Mexico Generating Station (NMGS)), the mines permitted after that time will be considered to consume increment. If NMGS consumes 13-27 mg/m^3 , then only 24-10 mg/m^3 of the increment would be available for all the proposed mines. This is obviously a significant factor which can affect the ability of potential lessees to develop Federal coal leases in the San Juan region. The relevance of the PSD question is again one of certainty for potential lessees; if there is a possibility (or even a high probability) that a tract in which a company is interested may be precluded from development because of PSD increment problems in the San Juan Basin, the EIS analysis should make this fact clear.

Page 3.51. Mitigation measures for cultural resources include no mention of archeological mitigation of sites to be destroyed.

Page 3.55. Relocation procedures should include tribal monitoring and assistance.

The results of the preferred target alternative states on pages 1-28 of the EIS that it "would exceed New Mexico State 24-hour particulate standard by 84 $\mu\text{g}/\text{m}^3$ for particulate matter. (The New Mexico and National Secondary Ambient Air Quality standard is 150 $\mu\text{g}/\text{m}^3$.)

For the San Juan Basin, a Class II area, the maximum allowable increase in concentrations of particulate matter on a 24-hour basis is 37 $\mu\text{g}/\text{m}^3$ over the baseline concentration (Section 163(3)(2)) (currently estimated at 39 $\mu\text{g}/\text{m}^3$). Although the mines collectively would increase the 24-hour concentration, by the EIS's own estimate to 234 $\mu\text{g}/\text{m}^3$, they are exempt from PSD review requirements because the emissions would be generated by several, not just one, source (Section 169(1)). Emissions are fugitive...generally not a major emitting facility.

Page 4

That leaves only 24-10 $\mu\text{g}/\text{m}^3$ remaining. Then, when the coal mines are developed, even if not considered major sources and subject to PSD permit, their 204 $\mu\text{g}/\text{m}^3$ of particulate emissions would be counted against the remainder of the increment. There is no known way at present for the number 204 to fit within the numbers 10-24. Even if we count only those five mines in a 25-mile radius of the New Mexico Generating Station (NMGS), all have potential to generate TSP concentrations that would overlap with an increase the levels of TSP generated by the plan above these levels.

In short, the candid statement in this EIS is quite true. The choice of this target alternative is in clear violation of the standards and the laws protecting clean air. We might add the unstated conclusion that this target cannot proceed as recommended and be in conformity with law. It is "unfortunate" that violating the law is not just a minor and unavoidable adverse impact of some selected alternative. Rather, it requires that the course of action ultimately selected, conforms to the law.

We question too the contention of the EIS (page 2-2) that the coal mines are all individually exempt from PSD review requirements. In reading the air quality impacts on page 3-40, the EIS states that there would be 18,803 tons of TSP emitted per year. If each mine were to escape classification as a major source, then there would have to be an average of 75.2 mines, each of equal size, producing the above level of particulates. In actuality, they are talking about only 20 mines (page G-7). The table shows that 11 mines exceed the 250 tons per year limit (and thus would require PSD review individually). This is in contradiction of the contention of paragraph 4 on page 2-2.

In addition, under New Mexico Air Quality Regulation 702, an air quality permit is required for the construction of any air contaminant source which, uncontrolled, would yield emissions greater than 25 T/year. And that permit will not be issued if it will violate any ambient air quality standard. Perhaps this would allow some of the mines, but it is questionable if all the mines in this target could be permitted.

In discussion of unsuitability criteria under the Surface Mining Control and Reclamation Act, the EIS states that Criteria 8 has no effect. Presumably this finding is based on consultation with the U.S. Fish and Wildlife Service or the State of New Mexico (page 1-13). This finding may indeed be a correct one. However, Criteria 8 deals with lands designated as National Natural Landmarks. It is the National Park Service which administers this program, and consultation should therefore have been with the National Park Service.

There is no examination of the effect of the very heavy drawdowns or groundwater on Chaco Culture National Historical Park's or other municipal supplies. In light of a protest filed by the National Park Service with the New Mexico State Engineer against a Conoco uranium mine dewatering operation, it is certain that holders of water rights in the basin would file protests against water withdrawals which occur much closer to their sources.

On page A-47, paragraph 5, there is a minor error. If 10 companies filed expressions of interest in 2.3 billion tons, and one subsequently withdrew its interest in .9 billion tons, then the remainder is 1.4 billion tons, not 1.9 billion tons.

Table 1-8, page 1-28. This table addresses only New Mexico AAQS violations and does not address the question of PSD increments and their probable violation as well.

Page 1-33. Since PSD increments are not addressed, it is difficult to conclude that "no significant impact" would occur. Further, the term "slightly violated" is problematic.

Page 1-35. Acknowledgement of the potential adverse visual resource effects at Chaco Culture National Historical Park should be made.

Page 2-2. It would be useful to have explanation of the factors which would result in surface mine emissions greater than 250 T/yr. Size? Mining method? Reclamation practices? What standards are used to estimate emissions?

Page 2-30. Again there is no reference made to visual resources at Chaco Culture National Historical Park.

Page 2-30. In the Recreation section, there is no reference to Chaco Culture National Historical Park. Figures on park visitation, the fact that it has been changed from a national monument to a national historical park, and the types of recreation experiences sought and available at Chaco Culture National Historical Park obviously belong in this section. It is a major recreational attraction in the San Juan Basin and should be discussed.

Page 3-15. Analysis of the possible effects of increased traffic on visitors bound for Chaco Culture National Historical Park should be included.

Page 3-27. The reduction of visual range should be given as "reduced to 65 miles from 127 miles." Further, a comment on the significance of this reduction should be given. A 50 percent reduction in visual range means that a visitor will, on the average, be able to see half as far. This is an important and highly significant potential effect. Reductions in visual range, coupled with reductions in contrast, could mean the backdrop of the Chuska - Lukachukai Mountains would be completely lost to visitors. Some quantification of the losses in visibility are necessary.

Page 3-35. The statement, "This could contribute to a violation of the PSD Class II 24-hour limit near the mines," does not tell the reader very much. What does it mean? If some of the proposed mines will be unable to obtain permits as a result of PSD II increment violations, this fact should be highlighted and explained.

Page 3-45. The Minimum Surface Owner Conflict Alternative visibility is expressed as an average visual range of 60 miles. There is no corresponding figure given for the target alternative; and for the High alternative, it is given as 60 miles. There should be some explanation as to how it is possible to quadruple coal production from 7.15 million T/yr. to .24 billion T/yr. with no changes in visibility as defined by average visual range and no changes in predictions of AAQS violations.

between what is in the park and what is outside, visual resources, etc.); and the comparatively scanty analysis of effects on visitors when contrasted with the treatment given to wilderness study areas are all examples of the "undervaluing."

We regard major transmission line corridors bordering the park, fully visible from Pueblo Alto, Pueblo Pintado, Kinyaa'a, and Kin Bineola (merely examples) as major impediments to the National Park Service's ability to interpret and manage resources under its jurisdiction unimpaired. As may be appreciated, it is difficult to help visitors recreate the isolation and mystery of the Chaco culture when the signs of this civilization (in the form of coal trucks, shift workers traffic and major transmission lines) are so close by and intrusive. The National Park Service reiterates that the T-2 corridor presents major problems to Chaco Culture, and we recommend that it not be selected as one of the routes. Every visitor to Chaco Culture would cross under the line on entering and leaving the park; and every view point to the north would be obscured by the towers, regardless of mitigating paint or placement. The only satisfactory mitigation is to select another transmission line corridor.

Page 5-7. Reference is made to "regional haze now visible" from Chaco Culture; National Park Service monitoring data does not indicate regional haze as a problem at Chaco Culture. Support for this statement is necessary.

Page 3. The start of construction, as the basis for analysis of impacts, will probably no longer be 1985 based on announcements by PNM.

Page 1-20. The statements that the transmission line routes have been selected "to avoid known land use conflicts" and, further, that they would be located to avoid "environmentally sensitive areas" shows that insufficient attention has been given to the potential effects on Chaco Culture National Historical Park. As has been pointed out in previous communications to the Bureau of Land Management from the National Park Service, line T-2 and, to a lesser extent, T-3, both present difficulties to the National Park Service.

Page 1-29. The National Park Service recommends that the most effective mitigative measure for eliminating the adverse consequences of the T-2 transmission line on Chaco Culture is the selection of another route.

Page 1-34. The Bureau of Land Management's VRM system is an effective method for analyzing visual resources if the assumption is that all lands are under the same management and of equal "importance." Unfortunately, the system does not, and cannot, factor in the relative values of scenic or visual resources seen from lands managed by other agencies which are not in multiple use. The VRM system makes no allowance for the context from which lands are seen; a viewpoint from Chaco Culture looking north from Pueblo Alto, following the path of the Great North Road, may not meet the VRM's narrow standards for Class I; but it is managed by the National Park Service as a significant viewpoint for its interpretive, scenic and historical values to the park. We believe the so-called "contrast ratings" applied by the Bureau of Land Management do not describe the potential impacts of the visual intrusion of a transmission line corridor to Chaco Culture.

Page 3-50. The mitigating measures section for air quality is generally inadequate. The object of this section should be to propose methods by which the total amount of TSP generated would be reduced and to avoid reductions in visibility as defined by average visual range, reductions in contrast, etc. Specific methods - road paving, use of surfactants, requirements for accelerated seeding and establishment of vegetative cover - should be proposed with attention given to the percent of reduction in total emissions that each proposed technique would provide.

Page 3-51. The statement that "no surface subsidence would occur" is an assertion without foundation, not a mitigating measure.

Page 3-52. There are no mitigating measures which address visitors to Chaco Culture National Historical Park, such as limitations on coal hauling on routes used by visitors.

Page 3-54. Further explanation should be given to help the reader understand how it is possible to propose issuing leases if it is known beforehand that violations on the law (Clean Air Act, for example) will result.

Page 3-65. The PSD Class II increments should be addressed here.

Page 3-66. The basis for selection of the indicators of significance should be given. It is not immediately obvious why a concentration of 4 mg/m³ over a standard was chosen; why not any violation of the standard?

Page 3-70. It is a little difficult to believe that a national park (Chaco Culture National Historical Park) is listed as "other recreation areas." To the majority of Americans, national parks mean significant, high quality experiences that involve both education and recreation.

Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town (DES 82-74).

The National Park Service's Air Quality Division, Denver Service Center, has reviewed the New Mexico Generating Station (NMGS) draft environmental impact statement and has found that while much of the air quality analysis follows accepted procedures, the document's most serious deficiency is what can best be described as an "undervaluing" of Chaco Culture National Historical Park (Chaco Culture).

Like all other units of the National Park System, Chaco Culture operates under the dual Congressional mandates of its authorizing legislation and the National Park Service Organic Act of August 25, 1916. Hence, although the park may have been established as a national park as a result of its singular concentration of cultural resources of the Chacoan civilization, it must be managed by the National Park Service in accordance with the Organic Act's directive to "preserve and protect" resources "unimpaired" for present and future generations. The numerous references throughout the draft to Chaco Culture as a cultural or archeological "site," the lack of attention to the important interpretive connection between Chaco Culture and the intervening terrain to its designated outliers; the failure to address the importance of the totality of a visitor's experience at the park (the drive to the park and back, the connection

Page 2-2. The narrative does not make it clear what the basis for the distinction between direct and indirect impacts is. What constitutes a direct impact; an indirect impact?

Page 2-17. As stated above, the Bureau of Land Management's VRM system and its categories do not address National Park Service concerns for maintenance of visual integrity from Chaco Culture. At a minimum, the visual resources section should address the fact that transmission lines T-2 and T-3 will be visible from Chaco Culture and should enumerate the viewpoints from which the lines will be visually intrusive.

Page 2-24. Chaco Culture certainly merits a more extensive discussion than Angel Peak or Bluewater Lake. It was established as a National Park Service area by Congress, is of national and international significance and is a destination park for visitors in the area. Moreover, there is no discussion of the spectacular preservation of ruins of the Chacoan culture and its significance as part of one of the richest archeological districts in the world. This is an example of the "undervaluing" referred to above.

Page 2-42. The discussion of visual resources effects of the T-2 transmission line should explicitly state that one of its major drawbacks is its proximity to Chaco Culture.

Page 3-3. In spite of the fact that the U.S. Environmental Protection Agency has given no further guidance on determining "impairment," a visibility analysis that limits itself to plume perceptibility appears unnecessarily limited, especially given the proximity of a national park.

Page 3-3. The PSD Class II increments should be addressed as well.

Page 3-3. Does the statement that maximum concentration increases due to NMGS would be to the southeast mean that Chaco Culture would be differentially affected?

Page 3-6. What does a calculation of a three-state total emission projection tell the reader? What would the increase be in New Mexico alone?

Page 3-17. The definition of visual resources appears to be unnecessarily narrow. Scenic views (such as those from Chaco Culture) which have historic and important contextual characteristics should be included in the definition. Moreover, by limiting the classification system to "viewed" lands without taking into account whence those lands are viewed, the system does not give sufficient weight to the National Park Service's management objectives for Chaco Culture.

Page 3-22. Since De-na-zin is primarily west and a bit north of the NMGS site, how can it be seen to the southwest. Also, how can the Chuskas be seen behind the plant?

Page 3-22. There is inadequate support for the statement that no part of the plant can be seen from any outliers.

Page 3-23. As stated *infra*, Chaco Culture is more than an archeological site. The use of the term "site" conjures up the image of a roadside area with one incompletely excavated ruin and a picnic table. Chaco Culture is a national park, of significant size, encompassing a staggering array of ruins of a remarkable civilization. None of its importance comes through in the draft's narrative.

Page 3-42. From the perspective of the National Park Service, the potential McKinley County site appears to have significant advantages to the Bisti site.

Page 3-58. The mitigating measures proposed in the activity related impacts section do not really address what specifically could be done to alleviate project impacts to Chaco Culture.

Page 3-60. The air quality discussion should make reference to reductions in average visual range and reductions in color and contrast. Since the U.S. Environmental Protection Agency standards are expressed in micrograms per cubic meter, why are the pollutant loads expressed here as tons per day?

Page 3-61. The chart should make reference to negative impacts on visitor experience at Chaco Culture.

Page CI-6. PSD Class II increments should be discussed. What indicators of significance were the basis for the conclusions stated?

Page CI-6. Choice of another transmission line corridor would significantly lessen potential impacts to Chaco Culture.

The alternatives are inconsistent in that they are not addressed equally. For example, in Report 3 of 22, a discussion of a wind generation alternative talked about noise. The selected alternative (SA) would certainly create as much or more noise and dust in the trucking of coal as the SA facility would require 7.5 million tons a year.

In Report 22 of 22, under Land Use Controls, page 1-9, paragraph 2, states that the transmission line right-of-way will support compatible land use such as grazing. The next sentence says the right-of-way will be closed and patrolled by helicopter.

Page 3-3 of Report 22 of 22, in the discussion of transmission line T-4, which traverses Cibola National Forest, why not show Cibola National Forest on Map 3-1? Even if it is unlikely to conflict with U.S. Forest Service plans, a letter from the U.S. Forest Service approving use of its land would support the location of T-4.

Report 18 of 22. What are the environmental impacts of diversion of 20,000 acre-feet of water from the San Juan River?

In Report 18 of 22, Recreation Resources Technical Report, it is stated that the general study area is not a high recreation use area. The population of the

San Juan, McKinley, Sandoval, and Rio Arriba Counties is about 198,400. The visitation to the recreation areas listed in the report with an update on Southwest Region National Park Service areas amounted to about 5,946,500; and no statistics were listed for Fish and Game areas, so we consider recreation a pretty high use. The above recreation use did not include proposed recreation areas.

Mitigation measures were mentioned for Chaco Culture National Historical Park, but no mention of who picks up the expense of the measures was made.

Page 7-1 of Report 18 of 22 states recreation use is predicted to subside after 1996. Most statistics collected on recreation use may show a decline for a year or two. After a new recreation area is added to some population base, then there is a gradual increase in use in all areas.

A number of the sections on cultural resources are poorly written, and some contain striking errors in the use of the English language. It would enhance the presentation if a writer-editor reviewed these sections and made appropriate corrections for the final. Examples include:

Page 3-16. "Cultural Resources," last paragraph, last sentence. This sentence reads "However, within the body of sites that meet this minimal criterion, there is a wide range of the kinds and type of such information held in those sites and of the importance of those included data." As written, this sentence conveys no information and makes little sense.

Page 3-17, paragraph 6. The paragraph refers to the uncontrolled collection of archeological materials by "nonprofessional hobbyists." This phrase appears to contain a redundancy. Is there such a thing as a "professional hobbyist?"

Page 3-57, "Cultural Resources," 1st sentence. This sentence is awkwardly constructed and appears to state that significant archeological sites will only be avoided or further investigated in areas "requiring intensive inventory." Therefore, is it the intent of the Bureau of Land Management to take no protective action for sites in previously surveyed areas or those which occur in areas subjected simply to reconnaissance? If no, the error in meaning should be corrected.

The description of the affected cultural resources in Chapter 2 is extremely general. Although the discussion on page 2-6 states that 21 sites in the proposed NMCS plant tract appear to meet the eligibility requirements of the National Register, no additional effort is made to inform the reader on the relative importance of these resources, especially in a manner that would be meaningful to the lay public or decisionmakers. Are the sites similar to or different from cultural resources in adjacent areas, are they particularly good representatives of their type, etc.? Given the number of large-scale surveys that have been made in adjacent areas (i.e., the El Paso lease, the Consol lease, the Navajo Indian Irrigation Project surveys), and the information available in the Bureau of Land Management's Cultural Resources Technical Report, it would seem possible to present a more substantive,

but not necessarily much lengthier, discussion of the affected cultural resources. This same lack of substantive description and discussion appears in the cultural resource section for the water supply and transmission line alternatives. Some examples suffice to illustrate the point.

1. The narratives on pages 2-31 and 2-38, concerning the P1 and P2 pipeline alternatives, state that only small portions of these proposed corridors have been archeologically surveyed. Yet, the map indicates that the majority of P1 crosses the Navajo Indian Irrigation Project and, in addition, parallels the Highway 371 route. The Navajo Indian Irrigation Project lands have been completely surveyed in the area crossed by the proposed P1 corridor; secondly, the Highway 371 right-of-way has been archeologically surveyed. Moreover, data recovery operations have already been completed for relevant portions of these latter projects.

Similarly, P2 crosses large portions of the Navajo Indian Project which have been surveyed and have also been subjected to concentrated data recovery efforts. The information gained from and the work conducted for these adjacent areas would seem to have a direct bearing on discussions here as well as in Chapter 3, Environmental Consequences.

2. The description of cultural resources for the various transmission lines is insufficient to allow for meaningful comparison. The cultural resource section for T1 on page 2-39 states that 164 sites have been found in a "moderate portion" of the corridor which has been surveyed; page 2-42 says that a "small portion" of T2 has yielded 73 sites; page 2-42 reveals that a "small sample" of T3 has produced 51 sites; and page 2-43 offers that a moderate coverage of T4 has led to the discovery of 156 sites. These site figures are meaningless from a comparative standpoint without more information. Is the "small portion" surveyed for T2 comparable to the "small sample" surveyed for T3? Further, since the proposed corridors extend from the heart of the San Juan Basin to its periphery, it is also necessary to know if the known site occurrences are roughly representative of the potential site variation expected along the corridor lengths. It makes a substantial difference from a comparative standpoint; for instance, if the sample of 164 sites in the T1 study corridor are scattered over the length of the corridor and the sample 51 sites listed for the T3 corridor are from a small amount of territory at one end.

From the information presented, therefore, it would seem there is little substantive archeological data upon which to base consideration of alternatives and impacts. This problem is reflected in Chapter 3, Environmental Consequences. Here, brief, but general, impact assessments are provided for the NMCS plant site, the P1 pipeline, and the T1 transmission line. However, no specific impact assessments are given for the P2 and P3 pipelines or the T2 through T5 transmission lines. Furthermore, Table 1-7, which summarizes impacts in Chapter 1, treats all environmental resources except cultural resources. Oddly enough, the document openly admits in the "Summary" chapter, that insufficient information is available to adequately consider impacts to cultural resources (see page 5-9, 2nd paragraph, last sentence). This is a perplexing amendment since the Bureau of Land Management's State Director's transmission memorandum of October 26, 1982, states that the purpose of the environmental impact statement is "to disclose the potential social, economic and environmental

effects of the NMCS proposal and its alternatives to ensure that these factors are adequately considered along with technical and other factors in the decision-making process." From the point of view of cultural resources, it does not appear to satisfy this intended purpose.

The deficiencies are all the more perplexing given the existence of the Bureau of Land Management's thorough background study for the environmental impact statement entitled "Cultural Resources Technical Report." A reanalysis of the information contained in this report and other similar background sources for the San Juan Basin should permit a better delineation of potential impacts to cultural resources. It should be mentioned that the "Cultural Resources Technical Report" gives excellent coverage to Native American resources. The Bureau of Land Management is to be commended for giving proper emphasis to these frequently neglected resources and including them in the environmental impact statement as a factor for consideration.

Air Quality Technical Report

Page 3-4. The average visual range at Bandelier National Monument is 183 kilometers; at Chaco Culture National Historical Park, it is 203.5 kilometers. This is greater than the 80-mile average (126 kilometer) reported.

Visual Resources

Page 4-3. The National Park Service modeling simulation shows that the plume will be quite noticeable in summer as well. The plumes are currently noticeable due to the Four Corners Plant.

Social and Economic Conditions Technical Report

Page 3-6, paragraph 2, line 3. The number 19,900 is not 31.6 percent of 34,000. The correct number is 10,744.

Draft Environmental Impact Statement for the Proposed Bisti, De-na-zin, Ah-shi-sle-pah Wilderness Areas (DES 82-75).

In quality and value, the Ah-shi-sle-pah Wilderness Study Area does not differ from the Bisti and the De-na-zin Study Areas. Certainly, the Ah-shi-sle-pah has more acreage underlain by coal.

However, even the Ah-shi-sle-pah contains less than one percent of the recoverable Federal coal in the San Juan Basin (.27 billion tons out of 200 billion tons). With so great a proportion of coal available nearby, on lands with little scenic or wilderness value, it does not appear to be wise land management to mine Ah-shi-sle-pah. Preferred Right Lease Areas (PRLA's) on the Ah-shi-sle-pah could be traded for Federal coal on other tracts, and thus there would not necessarily be a net reduction in coal produced.

Another argument was used to reject wilderness status for Ah-shi-sle-pah: that of not adding any diversity to the system. This rationale is weak in light of the purpose and intent of the wilderness preservation system. The aim of the system is to preserve

Page 13

wildlands. It is not necessary that each unit of that system is to preserve wildlands. It is not necessary that each unit of that system represents a unique ecological community in order to merit designation, thus, adjoining a unique ecological community in order to merit designation. Adjoining Yellowstone National Park, for example, are three administratively distinct wilderness areas; each one comprised generally the same ecosystem components. Each is worthy of wilderness designation, although only one would have sufficed in order to preserve an element of the Northern Rockies as wilderness.

Because Ah-shi-sle-pah is similar in character and quality to the other two wilderness study areas, the environmental impact statement cites this as a reason (page C-9) which weakens consideration for wilderness status. To the contrary, its similarity in quality and value classify it as deserving of designation as the De-na-zin and Bisti.

Draft San Juan Basin Cumulative Overview

Page 1-2, Map 1-1. This map shows two of the outlying segments of Chaco Culture National Historical Park: Pueblo Pintado and Kin Bineola. However, the Kin Ya'a segment is not shown. This omission should be corrected. The same omission is evident in Maps 2-1 and 2-13.

Page 1-20, Table 1-6. Table 1-6, which summarizes potential impacts for the NMGS action has no cultural resource section.

Page 2-8 and 2-9. This discussion of the regionally important cultural resource environment stresses legal significance. It would enhance the section to include a brief, nonlegal discussion of the relative importance of the affected resources that might be more meaningful to the lay public and decisionmakers. For example, the parallel section on paleontological resources on page 2-9 does a creditable job in this realm of presentation.

Thank you for the opportunity to review and comment on these San Juan Basin projects. The National Park Service has major concerns, as illustrated in these comments and comments provided concerning the preliminary documents. As expressed during the preliminary process, these concerns are not being addressed.

Edson L. Rye

cc: Richard Fagan, Albuquerque District Office, Bureau of Land Management,
Post Office Box 6770, Albuquerque, New Mexico 87107
Area Director, Farmington Resource Area, Bureau of Land Management,
Post Office Box 568, Farmington, New Mexico 87401



UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

SE

2-2-82-1-33

POST OFFICE BOX 1308
ALBUQUERQUE, NEW MEXICO 87103

Memorandum

To: State Director, Bureau of Land Management, State Office
Santa Fe, New Mexico

From: Acting
Regional Director, Region 2 (AFF)

Subject: Comments on "Threatened and Endangered Species Technical Report for the Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town", San Juan and McKinley Counties, New Mexico (BLM's December 27, 1982 Memorandum)

As requested in your memorandum, we have reviewed the subject technical report. It is our understanding from the report and conversations with your staff that the New Mexico Generating Station (NMGS) and New Town are two separate projects that are in different stages of planning. We commented on your preliminary draft on July 12, 1982. Comments on the current draft are as follows:

Page 1-15, NMGS, Compliance with the Threatened and Endangered Species Act. The language indicates that this draft report is the biological assessment as required by the Endangered Species Act. This statement should be clarified, as BLM staff have indicated it will be used to develop the required biological assessment, and that the assessment will be submitted to the FWS for review in the near future.

Page 3-1, NMGS, Black-footed ferret. Although we agree with your finding of "no affect" for the black-footed ferret (*Mustela nigripes*), we must comment once again that the information presented as rationale for that conclusion is out-of-date and does not appear to be technically correct. It is not correct to state that "There are no known records of the black-footed ferret in San Juan County during this century." According to the Bureau of Indian Affairs (BIA), there are unconfirmed reports of ferrets from San Juan County. It would be correct to state that there are no "confirmed" records. The draft technical report should be expanded to define what available information

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document the status of potential ferret habitat at the NMGS site as well as in pipeline and transmission line corridors. In addition, as we commented in our July 12, 1982, memorandum, there is no mention of the rediscovery of the species in Wyoming in 1981 or the BIA information that indicates the animal may continue to exist on the Navajo Indian Reservation. The subject Technical Report and biological assessment should be revised to include the above concerns.

The language relating to Hanson (1981) indicating the FWS may prepare a "Notice of Review" to declare the ferret extinct in New Mexico is inappropriate in the technical report and should be omitted. Because of recent findings in Wyoming, new biological evidence describing potential black-footed ferret habitat is available and will be considered by the FWS in determination of extinction in any areas. In addition, the 1981 memorandum indicated the "Notice of Review" would be prepared and decisions would be made within a year. This has not been accomplished to date, and there are no current plans to declare the species extinct in New Mexico.

Page 3-2, NMGS, Table 3-1. We agree with your determinations of effects as presented in Table 3-1 except for the bald eagle (*Haliaeetus leucocephalus*). See our comment for Page 3-5, Bald Eagle for a "may affect" rationale.

Page 3-4, NMGS, Greenback cutthroat trout. The discussion should indicate the prevailing wind direction and the higher potential for southern Colorado and northern New Mexico to sustain acid precipitation impacts.

Page 3-5, NMGS, Bald Eagle. Navajo Reservoir and San Juan, Animas, and La Plata Rivers in San Juan County, New Mexico, are major wintering areas for bald eagles. Recent data indicate these habitats are the principal wintering area for approximately 100 bald eagles. There is potential for direct diversion of up to 35,000 acre-feet of water from the San Juan River or Navajo Reservoir, for the purpose of supplying water to NMGS. This additional diversion of water, along with other diversions, may deplete stream flows and adjacent wetlands. Additional disturbance to the eagles may result from human population growth in northwest New Mexico. Social and economic developments and recreation use such as hunting, fishing, boating, and sightseeing will increase in proportion to increases in human populations. Impacts to Navajo Reservoir, the rivers, and their associated bald eagle habitats may occur due to flood control, water supply, housing, and transportation projects. Eagles could be affected by destruction of habitat, illegal shooting, increased human activities, and interference with roosting or feeding patterns.

An additional consideration that was not apparent when we commented in July 1982, is the effect acid precipitation may have on the wintering area. Several bald eagle nests occur in southwestern

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Colorado. Although we agree at this time that the effect of acid precipitation on the bald eagle may be quite limited, we would still have to conclude that NMGS "may affect" the bald eagle.

Page 3-13, NMGS, Knowlton's hedgehog cactus. The potential for increased human population in the region and for increased cactus collection and recreation-related impacts should be addressed.

Page 4-1, NMGS, Suggested mitigation. This section should be changed to make the recommendations part of the proposed action or to consider them in the project development as conservation measures.

Page 1-1, New Town, Affected Environment. We suggest this section of the draft be expanded to describe all project components of New Town. The discussion should include a description of transportation corridors, energy transmission facilities, water supply projects, sewage treatment facilities, recreation development, and likelihood for secondary effects such as increased human disturbance, and off-road vehicle use. If information on these components is not currently available, the potential extent of development and potential impacts should be anticipated. The geographic area of influence should be re-analyzed and expanded to include the above components.

We agree with the "may affect" determinations for Mesa Verde cactus (*Sclerocactus mesae-verdae*). With re-analysis of project components and geographic area of influence, you may desire to review the determinations of effect on the black-footed ferret and bald eagle.

This concludes our comments on the subject technical report on threatened and endangered species. Please do not hesitate to contact our Regional Office of Endangered Species at (505) 766-3972 or FTS 474-3972 if we can be of further assistance.

Jeffrey A. [Signature]

cc: Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Heritage Program, Santa Fe, New Mexico
Area Director, Bureau of Indian Affairs, Window Rock, Arizona



United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. BOX 11544
SALT LAKE CITY, UTAH 84117

DATE: APR 15 1983
BY: UC-150

120.2/500.2/650.

APR '8 1983

Memorandum

To: State Director (912), Bureau of Land Management, New Mexico State Office, P. O. Box 1449, Santa Fe, New Mexico 87501

From: Regional Director
Bureau of Reclamation

Subject: Review of Draft Environmental Impact Statements on the Proposed New Mexico Generating Station and Possible New Town, San Juan River Regional Coal, and the San Juan Basin Cumulative Overview Report

We have reviewed the above documents and have the following comments to offer in addition to the comments we submitted in our letter of January 17, 1983, on the San Juan River Regional Coal Draft Environmental Statement (DES):

New Mexico Generating Station DES

This project in itself would have no apparent effect on the Gallup-Navajo Project; however, when it is added to list of other potential users of San Juan River water in New Mexico, the total allowable depletion in New Mexico could be exceeded. As more potential users are identified, the competition for water increases. This subjects all new projects, including Gallup-Navajo, to an individual degree of uncertainty, even jeopardy.

Page 1-29 - Any planned design, construction, and restoration practices to benefit or minimize impacts to wildlife and fisheries, especially, should be described.

Page 1-39 - Table 1-8 - Cultural resources sites affected by the proposed reservoir RI should be indicated.

Page 1-41 - Table 1-9 - In order to judge the significance of proposed actions, the specific number of cultural resources sites along the route of the transmission line T5 should be indicated.

Page 2-16 - We recommend that a cultural resources survey be conducted at the proposed reservoirs RI and R2 in order to assess the impact of the two alternative sites on cultural resources accurately.

There is no evidence that any surface water hydrological analyses were made, only a cursory comparison between the proposed 48 ft³/s diversion and several

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other available flow values. These comparative flows range from 3,700 ft³/s down to 105 ft³/s. They are used in an apparent effort to demonstrate that a 48 ft³/s diversion would have no significant impact on downstream users. Taking these comparative flows one at a time, we have the following comments:

Page 5-7 - 520 ft³/s is identified as a low flow at Farmington. The accompanying narrative suggests this is the flow that would occur during critical dry periods. The origin of both this value and its definition is not explained.

Page 2-30 - 2,400 ft³/s is apparently taken from the "U. S. Geological Survey Water Data Report NM-81-1," which indicates that the average flow for the 1913 through 1981 period was 2,375 ft³/s at the Farmington gage. We feel that using historic flows in a future condition assessment is misleading. As a matter of interest, the recorded flow at Farmington gage during the critical period was 1,200 ft³/s, but this too is not relevant to a future condition comparison. Bureau of Reclamation studies indicate that during the period of study 1929 through 1975, the average flow under future conditions at Farmington gage would also be in the 1,100 ft³/s to 1,200 ft³/s range; however, these values are based on studies which assumed release of the full yield of Navajo Reservoir. These were hypothetical studies made for the sole purpose of determining what the yield is. There is no assurance that there would be a situation arising where the full yield would have to be released.

Page 2-30 - 700 ft³/s is apparently taken from a Bureau study as the average flow through the critical period at Farmington gage. We are not sure which study was used, but believe the most appropriate value to be 650 ft³/s. It also is based on release of the full yield of Navajo Reservoir, so it carries the same qualifier previously noted.

Page 3-28 - 105 ft³/s is a number which we have estimated by taking 15 percent (as noted on this page) of 700 ft³/s (as noted on page 2-30). If we did this correctly, it appears a determination has been made that there would be no significant downstream impacts until the flow was reduced to below 105 ft³/s; however, it is not clear which one of the comparative flows was used (15 percent or what?), or how the indicator of significance was determined.

Page 3-32 - 3,700 ft³/s is identified as occurring 10 percent of the time during the 1963-1981 period. Previous comments relative to the use of historic flows also apply here.

Two other general comments are as follows:

1. There are five different flow comparisons scattered through the report, each using a different flow. Four of these appear to relate to the same thing. The fifth flow of 3,700 ft³/s is the only one that seems to have a logical separation in the report since it is dealing with a situation related exclusively to high flows.

2. Every flow used except the 3,700 ft³/s is an average flow through some time period. We feel that use of average flows is misleading because during this time period, there will be many flows substantially below the average flow.

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One final item related to the surface water hydrology is the sentence on page 3-28 that states, "During drought conditions, this 48 ft³/s would be released from the Navajo Reservoir specifically for NMGS." This is one of only a few references found in the report that New Mexico Generating Station would have a call on water stored in Navajo Reservoir. We had assumed from other portions of the narrative that this would be a diversion right (if granted) using only those riverflows available at the diversion point. In fact, the various comparative analyses presented seemed to be an attempt to illustrate that there was enough water in the river not only to meet the proposed 48 ft³/s diversion, but also have so much left over that there would be no significant downstream impacts. In any event, this rather casual mention of using Navajo Reservoir storage opens up a whole new set of considerations in making an assessment of the proposed project. Examples of hydrological values that are missing would be how often and in what quantities are releases required.

An environmental assessment requires certain types of hydrological analyses conducted at definitive levels. It appears that those analyses have not been done. We recommend that a table be included in this section which presents high flows of record, as well as averages, and that data from specific surface water hydrological analyses also be presented.

Pages 2-30 and 2-31 - Additional specific quantitative data should be presented in the DES on water quality and impacts of the proposed action on water quality (page 3-13). While we recognize that a technical report on water quality is available, without it it is difficult to assess the existing conditions and impacts as presented in the DES.

Page 2-32 - It should be noted that the most recent collection of Colorado squawfish in the San Juan River was obtained by VTN Consolidated in 1978.

Page 2-39 - The wildlife, vegetation, and cultural resources present at the reservoir site should be described.

Page 3-28 - In this section on the environmental consequences of the proposed project, the effect of the required releases from Navajo Reservoir upon the downstream trout fishery and recreation use needs to be discussed. The effect of the proposed action on flood plains and wetlands, as required by Executive Orders 11988 and 11990, should also be discussed.

As indicated on page 5-11, one of the main areas of controversy raised by the public throughout the subject DES process is the availability of a water source to supply 35,000 acre-feet per year to the 2,000 MW powerplant. The main water supply alternatives considered included direct diversions from the San Juan River, local ground water pumping, and uranium mine dewatering. The water use study alternatives evaluated included wet cooling towers, ponds, and dry cooling systems. Although these alternatives represent significant study effort, none of the alternatives address the potential of saline water supply and use for the powerplant.

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The Bureau of Reclamation, under the Colorado River Water Quality Improvement Program, is encouraging the use of saline water for beneficial use as one of the most cost-effective salinity control strategies for the Basin. In the San Juan Basin, studies are underway to identify saline water sources and potential uses along the San Juan River from Farmington to Bluff, Utah.

In this stretch of river alone, over 590,000 tons of salt are contributed to the river system. Potential saline water sources include irrigation returns, canal seepage, ground water systems interfaced with the river, springs, and other diffuse or intermittent surface flows. Once located and collected, the saline water could be delivered separately or blended with river water for beneficial use. Since a 40-mile pipeline is already proposed to transport water from the river near Farmington to the plantsite, saline water collection and transport costs could be minimized if sources near Farmington can be located. Depending on the Total Dissolved Solids (TDS) of the delivered saline water or blend quality, conventional wet cooling towers could be used (with softening); or with higher TDS conditions, a Binary or saline water cooling tower might be considered. Unfortunately, the discussion in the DES on alternatives did not address saline water use or the Binary Cooling Tower. Use of advanced cooling systems, such as the Binary Cooling Tower, might also provide some economic benefits in terms of reducing the costs related to the proposed 260 acres of evaporation ponds.

On page 3-31, it states that the Bureau of Reclamation views the TDS increase (4mg/l at Imperial Dam, resulting from diversion of the San Juan) as an allowable result of each State's right and use of available Colorado River water. This position is totally responsive to the law, but it should not discourage government/industry efforts to mitigate the salinity impacts where waters of degraded quality can be used to conserve fresh water supplies.

The statement and related water supply analysis need to be responsive to the policy for use of brackish and/or saline waters for industrial purposes as promulgated by the Colorado River Basin Salinity Control Forum in its Report on the 1981 Review Water Quality Standards for Salinity, Colorado River System (July 1981). Under that policy, the Forum recommends that "each State encourage and promote the use of such brackish and/or saline waters, except where it would not be environmentally sound or economically feasible. . . ."

Page 3-31 - With regard to intake structure construction, is a Corps of Engineers 404 permit required? The effect of this construction on flood plains and wetlands also needs to be discussed.

Page 3-32 - What is the status of Endangered Species Act, Section 7 consultation with the Fish and Wildlife Service? Has a "no jeopardy" opinion been issued?

San Juan River Regional Coal DES

The limited quantity and variable nature of streamflow in this region necessitate the use of ground water sources as a water supply for the proposed mining of 39 new competitive coal tracts. The use of 12,850 acre-feet of ground water

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per year by mining companies will create a variety of impacts; some of which are not fully addressed and require clarification. Our questions and concerns are:

1. Any depletion of surface water flows in the San Juan River attributable to withdrawal of San Juan Basin ground water is subject to the apportionment of the use of water among the States of the Upper Basin fixed in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively, and to the terms of the treaty with the United Mexican States (Treaty Series 994). All consumptive use of waters of the San Juan River and its tributaries shall be charged under the apportionment of Articles III and XIV of the Upper Colorado River Basin Compact (Act of April 6, 1949, Ch. 48, 63 Stat. 31) to the State in which the use is made.

The following entry in Appendix A-4, Federal Laws and Regulations Affecting Coal Development, should be included:

Resource	Popular Name	Regulation/Law U.S. Code Citation	Purpose/Major Relevance
Water Resources	Upper Colorado River Basin Compact	Act. of 4/6/49 Ch. 48, 63 Stat. 31	Equitable division and apportionment of the use of waters of the Colorado River System; to establish the obligations of each State of the Upper Basin with respect to the deliveries of water required to be made at Lees Ferry by the Colorado River Compact.

2. Projected (model-derived) drawdowns for the five model layers, under the No Action Alternative, indicate a recovery of water level and inward movement of drawdown contours in the year 2040. The maps of each major aquifer show the greatest drawdowns occur in the year 2020 for layers 1, 3, 5, and 6, and in the year 2000 for layer 7. Analysis of these maps indicates that water level recovery is only significant in the middle of the cone of depression with inward movement of drawdown contours very limited after 20 years and in the case of layer 7, 40 years. This disruption in aquifers and destruction of shallow ground water sources will greatly reduce if not eliminate spring discharge in these areas. The impacts to resident wildlife and livestock grazing will be significant over a long period of time. The impacts associated with the destruction of shallow ground water sources have not and should be identified.

3. Reference was made to the estimates of Shown and others (1981), page 3-61, in which they report peak streamflow and runoff volumes following surface mining reclamation to be 30 to 70 percent of premining estimates. A range of resultant percentages this large does not provide any information without an explanation of terrain, slope pre- and post-vegetative types, reclamation measures implemented, changes in infiltration rates, and the applicability of this study to the 39 proposed coal tracts.

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4. On page 3-10, second paragraph, the reader is directed to refer to the glossary for a definition of aquifer Model Layers 1, 3, 5, 6, and 7. Those definitions, however, are not included in the glossary.

The allocation and availability of water for all anticipated future uses in the San Juan Region should be examined synergistically before any decisions are made or actions taken. This may be beyond the scope of this DES; yet without considering the San Juan River Basin as a whole, significant primary and secondary impacts may develop.

San Juan Basin Cumulative Overview Report

Page 2-22 - Map 2-5 - Heron Lake State Park, near to El Vado Lake, needs to be identified.

The planning group should be informed that consultation and coordination with the Bureau of Reclamation and the State of New Mexico State Engineer's Office would be necessary to obtain water rights on the San Juan River. The Bureau of Reclamation is proposing to conduct a salinity investigation of the San Juan River beginning in fiscal year 1985. Saline flows from industrial and agricultural areas, as well as possible natural sources, could be collected and made available to partially meet the water demands of the New Mexico Generating Station. The Bureau of Reclamation will work with the Public Service Company of New Mexico to explore this option.

If you have any questions concerning these comments, please call Harold Sersland of this office (phone FTS 588-5580).

H. Sersland

UNITED STATES GOVERNMENT

NAVAJO & HOPI INDIAN RELOCATION COMMISSION

P. O. BOX KK • FLAGSTAFF, ARIZONA 86002

April 5, 1983



Mr. Charles W. Luscher
State Director (934A)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87301

Dear Mr. Luscher:

Enclosed are our comments on the Environmental Impact Studies for the proposed San Juan River Regional Coal Leasing (SJRRCL) action and the New Mexico Generating Station (NMGS) project.

We were not asked to provide comments, however, there are a number of areas where we believe our comments would be appropriate.

Sincerely,

Stephen G. Goodrich
Stephen G. Goodrich
Executive Director

SGG:dlf
Encs.

COMMENTS FROM THE NAVAJO & HOPI INDIAN RELOCATION COMMISSION

We have reviewed the Environmental Impact Studies (EIS) for the proposed San Juan River Regional Coal Leasing (SJRRCL) action and the New Mexico Generating Station (NMGS) project. We have also studied your San Juan Basin Cumulative Overview document which discusses the cumulative effects of the above two actions and other actions under consideration by the BLM.

Our Commission was not included in your list of document recipients, but your Farmington office personnel responded promptly to our request for copies.

We feel that the EIS documents are well prepared and generally comprehensive, but there are a number of areas where we believe our comments would be appropriate. Since the projects are interrelated we are combining our comments in the following response.

SJRRCL - EIS - Page 1 - 22, Paragraph 2

In reference to the 35,000 acre land selection by the Navajo Tribe under P.L. 93-531, as amended, the statement is made that:

"The Department has this selection under active consideration but has not decided to approve the application. Before the selection application was filed, however, the New Mexico State Director of BLM informed the Chairman of the Navajo Tribe that if the Tribe selected lands covered by PRLA, the interests conveyed by the PRLA would not be transferred as a part of the selection. Any leases issued would be administered by the BLM and all revenues would be distributed under the Mineral Leasing Act."

The first sentence of the quote should have made reference to the Secretary of the Interior or to the official to whom his authority is delegated for the approval action rather than to the "Department". Also, it would have been better to say that no approval action had been taken rather than to use the phrase "The Department has not decided to approve the application". There is little point in speculating on whether the "Department" has or has not decided to approve the application until a formal decision is made.

In regard to the statement concerning PRLA's we feel that the impression is given that there is little question as to how PRLA's would be administered and revenues distributed. Major legal questions exist on this matter. We disagree with the characterization regarding the "interest conveyed", and would recommend deletion of that statement in lieu of the following: "Certainly valid existing rights, such as PRLA's, would have to be recognized in any conveyance."

SJRRCL - EIS -Page 2 - 47 - Paragraph 5

The statement is made that..."It is anticipated than an unknown number of Navajo families from the former Navajo-Hopi Joint Use Area in Arizona will be settled on lands selected by the Navajo Tribe on or around competitive coal lease tracts. Any additional settlement may increase the existing demand for grazing use areas and the number of conflicts over grazing boundaries."

Comment

The only lands selected by the Navajo Tribe in New Mexico are within the Paragon Resources Ranch area and this ranch is presently operated by Public Service Company of New Mexico and, to our knowledge, no Indians are grazing stock within the Ranch boundaries, although the company is using some Indian lands. We see no basis for conflict between relocatees and resident Navajos over grazing.

General Comment Applicable to the SJRRCL - EIS and the NMGS-EIS.

Lands selected under P.L. 93-531, as amended, occur on parts of some areas on lands planned for competitive leasing and on parts of some areas with existing PRLA's. Also, some selected lands occur within the area of the proposed new town and on areas through which the Public Service Company of New Mexico has requested rights-of-ways.

There were general references in the report to the Navajo selection mentioned previously in this response but the statements did not adequately address the effects of the Navajo land selection on competitive leasing or on the construc-

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The report states that "It may be assumed, therefore, that if there was no Indian preference given to Navajo hiring there would be few Navajos employed, if, on the other hand the applicant does commit to Navajo hiring preference, a large percentage of the total project jobs would be held by Navajos."

The report further states that "Indirect or secondary employment in the local economy may follow past patterns of relatively few off-Reservation jobs out of the total being held by Navajos."

In the discussion of the new town (NMGS 1-1) the size of the new town is projected at between 10,000 and 12,000 residents, but it makes this statement with regard to Navajos:

"In theory, Navajos would benefit from a new town because it would provide housing and other amenities better than those available in Reservation Communities, as well as access to jobs. In practice, however, Navajos have preferred to stay in communities on or near the Reservation. Only about 5 percent of Farmington's population, for example, is Navajo, compared with 35% county wide. Thus Navajos seeking employment are likely to prefer commuting from Shiprock or Crownpoint rather than trying to integrate into a modern Anglo community."

The above statements indicate that the jobs in coal mining and power generation will probably go largely to non-Indians. Realistically, significant Indian employment will only occur if Indian preference is in effect even though the present commitment of Public Service Company of New Mexico to Indian employment would be helpful in this regard. Further, it appears that the new town is perceived as a non-Indian town with few Navajos. ^{1/}

^{1/}The use of Farmington to show that few Indians will live in a new town may be faulty. The low Indian population of Farmington may be due to attitudes and prejudices toward Indians and would not necessarily mean that a town developed with a commitment to Indian needs and concerns would not have a larger percentage of Indians.

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tion of the proposed generating plant and new town. If the selection is approved, the Navajo Tribe would have to be a party to any mineral or surface leases and rights-of-way connected with mining or the generating plant and proposed new town. The Navajo Tribe would probably require Indian preference in these leases.

General Comments on Implication of the Proposed Actions to Navajos living in Impacted Areas

The principal interest of the Relocation Commission relates to Navajos who may be relocated to the area but the following comments would also apply to existing residents of the area.

The EIS documents and the cumulative overview document all indicate that the proposed action would have major and far reaching effects on the Navajo inhabitants of the affected area. There would be some effects on air quality and possibly groundwater, the landscape would be changed, traffic on roads would increase and perhaps most important, there would be a significant influx of non-Indians whose presence would be disturbing to both existing Navajo families and relocatees. In addition, a number of existing Navajo families would have to be relocated.

It is disturbing to us that the report projects that non-Indians will hold most of the jobs and make up the great majority of the new town residents. The influx of these non-Indians would, as the report indicated, tax existing facilities and have major impact on Navajo life styles.

The basic problem will relate to whether the major adverse impacts on Navajo life style will be counterbalanced by economic benefits. The EIS reports would indicate that this balance will not occur.

On page 3-26 of the NMGS-EIS it is stated that in 1981, 61% of the employees of the Four Corners Generating Plant were Navajo while only 7.2% of the employees of the San Juan Generating Plant were Navajo. This difference, the report points out, results from Indian preference in the Four Corners Power Plant.

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The preceding discussion makes it evident that the economic benefits to the Navajo residents of the impacted area would not outweigh the adverse impacts if the actions are implemented as planned. If, however, the Paragon Land Selection is approved, then the Navajo Relocatees as well as other Navajos in the area would more fully share in the economic benefits of the proposed actions.

If the selected lands were conveyed to the Navajo Tribe then the Tribe could be a party to any subsurface or surface leases and Indian Employment preference could be required. Also, revenues from coal leasing could be used for economic and community development in the area. Communities could be built so they would be suited to Navajo needs and life style and be located where Navajos could live near their jobs.

The approval of the Navajo land selection should not significantly affect the large scale mining and power generation developments planned for the San Juan Basin. It is anticipated that the Navajo Tribe would cooperate with the Public Service Company of New Mexico in its developments and with the mining companies, but Indians would be sharing in the economic benefits of the development.

Regardless of the Paragon Land Selection, any proposed subsurface or surface leases as well as rights-of-way or land exchange actions in the San Juan Basin should be examined to determine whether these actions could require a preference in Indian employment in areas where the majority of the population was Indian or where the area could be considered as Indian Country.

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United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
ALBUQUERQUE AREA OFFICE
P.O. BOX 8527
ALBUQUERQUE, NEW MEXICO 87108

IN REPLY REFER TO
305 - Environmental
Quality

APR 15 1983

Memorandum

To: State Director, Bureau of Land Management, New Mexico
Attention: Ms. Leslie Cone

From: Area Director

Subject: Comments on Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town and the Hydrology Technical Report

As a cooperating agency for the above noted Environmental Impact Statement, we have reviewed the draft document and have a number of comments both general and specific.

General Comments

We feel that it is necessary to restate our opposition to the environmental effects of the project. Following review of the Preliminary Draft Environmental Impact Statement (OEIS), we indicated, in a memorandum of August 25, 1982, that we felt that the "no action" or "no build" alternative was the most logical choice for selection as the Department of Interior's preferred alternative. Review of the OEIS has reinforced this opinion.

Review by other Federal agencies and American Indian Tribes has also reinforced this view. We have recently received a copy of a letter from the Jicarilla Apache Tribe. The original of this letter is directed to you and voices their opposition to the project. Without repeating their concerns, we support the Jicarilla Apache Tribe's position in this matter and request that you print their letter and provide complete responses to the issues raised.

Because we feel that concerns voiced by all cooperating agencies, including our own, are important; at this time we formally request that comments of all cooperating agencies be published with the Final Environmental Impact Statement. We also feel that individual responses to comments are merited.

-3-

- h) the cost of very expensive and long-term replacement of water to mitigate impairment of senior water rights, and
- i) the serious ecological, archaeological and paleontological destruction which would be caused by the extensive water supply facilities.

The Final Environmental Impact Statement (FEIS) should include an estimate of the savings which would result from use of Dry Mechanical-Draft Towers instead of Wet Cooling Towers. The alternative is not fully evaluated in either the OEIS or the Project Description Technical Report.

- 3. Since the State Engineer's office does not have jurisdiction over Indian lands, a plan of replacement filed with that office cannot guarantee full protection of Federally reserved Indian water rights.

If you have any questions, please contact Mr. William C. Allan, Area Environmental Quality Specialist, Environmental Quality Services, at 505/766-3374.

Wm. C. Allan
Area Director

-2-

Specific Comments

1. The proposed "indicators of significance" for surface water and ground water are invalid. The "indicators of significance" should reflect acceptable economic effects as well as acceptable amounts and kinds of change that will affect prior users' water supplies. Theoretical or technical limitations on measurement errors, such as those proposed in the OEIS as rationale for the surface and ground water "indicators of significance," should not be used. Although it is irrelevant to the question of environmental significance, records on the San Juan River are generally good ($\pm 10\%$), rather than fair ($\pm 15\%$), and it is possible to measure surface water flows to accuracies approaching 100%.

In order to fairly assess the significance of impacts, the type of water supply must be considered. A 25-foot water level decline, for example, probably would not affect an industrial well with several hundred feet of available head as severely as it would affect a stock well with only 25 feet of water in the well. Similarly, a 15 percent flow reduction in a seasonal spring flowing into a dry arroyo would not be as significant as 15% reduction of flow in the San Juan River.

2. The Dry Mechanical-Draft Tower alternative to the proposed Wet-Cooling System appears to have been eliminated without a thorough cost-benefit or environmental analysis. An appraisal of this alternative must include the benefits this option offers over wet-cooling. These benefits include the elimination of:

- a) 90 percent of the water requirements for wet-cooling,
- b) probable legal battles over water rights issues,
- c) 40 to 80 miles of underground pipeline,
- d) costs of pumping water those 40-80 miles,
- e) installation and operation of a large well field,
- f) the need for a 35-acre site with intake pumping plant and river diversion facilities,
- g) interference with sacred spring sites in the Chuska Mountains.



United States Department of the Interior

IN REPLY REFER TO
120.1

April 19, 1983

Memorandum

To: State Director (912), Bureau of Land Management, New Mexico
State Office, P.O. Box 1449, Santa Fe, New Mexico 87501

From: Regional Director
Bureau of Reclamation

Subject: Review of Draft Environmental Statement, New Mexico Generating Station and Possible New Town

We should like to add the following comments to those made in our letter of April 8, 1983, on the above Draft Environmental Statement (DES):

Several major comments have arisen during our review of the subject DES. The most prominent one is the proposed action to use 35,300 acre-feet/year of water from the San Juan River (Navajo Reservoir). In Chapter I under Water Supply Source, Proposed Action (page 1-17), insert:

"... industrial contract holder. This water right held by the industrial contractor is available until December 31, 1985, at which time the water service contract will be terminated unless an extension is approved by Congress. The applicant is. . . ."

We have not received any requests for any assignment or use of Navajo Reservoir water from the Public Service Company of New Mexico (PSCNM). The only industrial contractor which the applicant (PSCNM) could be negotiating with for use of Navajo Reservoir water is Utah International, Inc. (UII). As stated above UII has an existing consumptive water right of 35,300 acre-feet/year until the 2005; however, no indication is made in the DES of what the actual project life of the proposed generating station will be. If PSCNM did contract with UII for Navajo Reservoir water, the water service would only be available until 2005, unless extended by Congress, and only after approval of the assignment by the Secretary of the Interior. The Bureau of Reclamation is currently reviewing the hydrologic determination of water availability from Navajo Reservoir; however, this review does not guarantee that an extension will be able to be made.

If PSCNM were not able to obtain existing contract water from UII, then a new contract for San Juan River water (Navajo Reservoir) would have to be negotiated with the Bureau of Reclamation. There are several contingencies that influence the accessibility of unallocated water in Navajo Reservoir.

First, under Section II of the Act of June 13, 1962, Public Law 87-483, 76 Stat. 96 (authorizing the construction of the Navajo Indian Irrigation Project), the Secretary is precluded from entering into long-term contracts for the sale of water from Navajo Reservoir for industrial uses until (1) he has determined by hydrologic investigation that sufficient water to fulfill the contract is reasonably likely to be available; (2) he has submitted such determination to Congress; and, (3) Congress has approved the contracts.

Second, any depletion of surface water flows in the San Juan River by diversion of attributable to withdrawal of San Juan Basin ground water is subject to the apportionments of the use of water among the States of the Upper Basin fixed in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively, and to the terms of the treaty with the United Mexican States (Treaty Series 994). All consumptive use of waters of the San Juan and its tributaries shall be charged under the apportionment of Articles III and XIV of the Upper Colorado River Basin Compact (Act of April 6, 1949, Ch. 48, 63 Stat. 31) to the State which the use is made. Specific obligations have been established by these agreements and, therefore, limit the amount of San Juan River water that can be consumptively used.

The discussion of the proposed action for the Water Supply Source (page 1-17) requires a more detailed description of how the water right can be obtained. It also seems apparent that with the ambiguity of water availability in this region and the applicability of existing cooling-systems technology, the New Mexico Generating Station's (NMGS's) proposed action should be a water supply of 20,000 acre-feet/year in conjunction with the hybrid wet/dry cooling system alternative.

The following items should be inserted:

Table 1-1 (page 1-5)

Assuming the preferred water supply is Navajo Reservoir, certification by the Secretary of the Interior through hydrologic determination that a sufficient water supply is available for use for the duration of the project. (act of June 13, 1962, 76 Stat. 96, Sec. 11)	Water Supply	
	Surface	Ground
		X



United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202
April 8, 1983

Mr. Richard T. Watts
BLM, Farmington Resource Area
P.O. Box 368
Farmington, NM 87499

Dear Mr. Watts:

Thank you for the opportunity to comment on the San Juan River Regional Coal draft EIS. The staff of the Western Technical Center has reviewed the document and our informal comments, by discipline, are enclosed.

When the final EIS has been prepared, we would appreciate receiving four copies. Once again, thank you for the opportunity to comment. If you have any further questions, please direct them to Charles M. Albrecht, Chief, Environmental Analysis Branch, Western Technical Center, (FTS) 327-3636.

Sincerely,
Richard E. Danner
for Allen D. Klein
Administrator
Western Technical Center

Enclosures

cc: Gene Day, NMSO, BLM

Chapter 1, Areas of Controversy (page 1-42)

Jicarilla Apache Tribe Lawsuit - If our supposition regarding the industrial contractor mentioned is correct, this suit is filed to United States District Court, Albuquerque, New Mexico, to declare null and void the water service contract for delivery of 44,000 acre-feet/year of San Juan River water (consumptive use limit is 35,300 acre-feet/year) to private industrial contractor, Utah International, Inc.

Corrections and questions are listed:

Chapter 1, Agencies Preferred Alternatives (page 1-42)

"... process; and approval of the ultimate water supply system rests with the New Mexico State Engineer (and may include the Interstate Stream Commission, the Bureau of Reclamation, and the Secretary of the Interior)."

should read:

"... and approval of the ultimate water supply system rests with the New Mexico State Engineer (and will require at minimum close coordination with and perhaps approval by the Interstate Stream Commission, the Bureau of Reclamation, and the Secretary of the Interior)

Chapter 2, Areas of Controversy (page 1-42)

"Navajo Lawsuit - claiming 2 million (words missing) northwestern New Mexico which includes the proposed site for NMGS.

COMMENTS ON THE SAN JUAN RIVER REGIONAL COAL DRAFT EIS

AIR QUALITY

The EIS should show in graphic form the predicted concentrations of TSP for 24 hours and for the annual average.

The EIS should include a discussion of the expected impact to the annual average TSP concentration.

CULTURAL RESOURCES

Page 1-34. The EIS states that there are no sites yet encountered that should be preserved in situ. However, the EIS also states that portions of some Chacoan Roads will be disturbed by the proposed action. It is OSA's opinion that Chacoan Roads have merit for in situ preservation, inasmuch as mitigation of impacts may be difficult or impossible.

Page 3-37. The EIS states that mining may destroy a portion of Pierre's Ruin. This site is eligible for in situ preservation on the basis that mitigation of impacts would be difficult or impossible.

Page 3-51. The EIS should include a discussion of data recovery at eligible sites or possible mitigation measures to be used for the Chacoan Roads. Proposed mitigation measures should adequately mitigate impacts in order to lessen or eliminate those impacts.

Page 3-51. Blasting studies concerning impacts to cultural resources should be completed prior to the final EIS so that these important data can be taken into account in the final EIS and in final lease tract determinations. Completion of these studies just prior to lease issuance is too late in the process to be useful in the selection process. Early information could be used to eliminate areas from leasing which, if leased, could later be determined as unsuitable for mining.

Page 4-6. The Advisory Council on Historic Preservation should be included as a document recipient pursuant to the Secretary's Section 106 responsibilities.

SOCIOECONOMICS

Page 2-37. It would be helpful to specifically define what counties/communities were included in the socioeconomic assessment. Reasons for not including certain communities within the region (i.e., Shiprock, Gallup) should be stated.

Page 2-46. It would be useful to include a discussion of current Navajo demographic trends (i.e., in- and out-reservation migration, shifting population within the reservation) as it relates to increased jobs and energy development. The potential for existing trends to change or continue as a result of increased coal development should be acknowledged in Chapter 3.

Page 3-4. The following text change is suggested: "Increases in annual growth rates of less than 10 percent may cause considerable change within a community; however, growth rates in excess of 10 percent are considered to cause major adverse impacts. Therefore, those communities experiencing an annual growth rate in excess of 10 percent are the focus of this EIS." Several sources indicated that a 3 percent annual growth rate is tolerable, 7-10 percent results in the "boomtown" phenomenon, and an excess of 10-13 percent causes severe institutional breakdowns (EPA 600-9-77-033) (Gilmore, 1976).

Page 3-24. It would be useful if BLM would include more definitive data on the population impacts of the preferred alternative. This data should be arranged by year and community. A discussion of assumptions used in forecasting the population figures (p. 3-24) could be included in the appendix. This discussion should include (a) an identification of projects included in the baseline and "with Target Level" forecasts, (b) an overview of any particular economic/demographic models used in BLM's population forecasting, and (c) the assumptions used to calculate Native American opportunities (p. 3-24) associated with increased coal leasing.

2

indication of the reclamation potential for the area. This can be accomplished by identifying the dominant soil series from the existing soil inventory work, obtaining SCS form 3's with interpretations for topsoil material and other uses required in surface mining. Develop some approximation of the areal extent from the existing soil association maps. Obtain the existing analytical data for the series from all sources. Using one or more of the series of the interpretative guidelines for the use of soil materials in the reclamation of drastically disturbed land (National Soils Handbook, EMRIA, SEAM, Schafer, etc.), identify those units which have high, medium, or no potential for use in reclamation. Coupled with some approximate acreages drawn from the soil association maps, the reader could thus gain some idea as to the extent and types of reclamation problems that exist in the region.

Page 2-23. " * * * the BLM has no knowledge of actual livestock operators, livestock numbers, class of livestock, or range developments." The lack of information again makes thoughtful interpretation of the resource data and the potential for mitigation very difficult. Was the BIA consulted or directly involved during the preparation of the EIS? Of the potential regional impact, a considerable amount will be borne by the Native American populations, although little or no information is available on their use(s) of the land.

Page 2-24. "Many operators reside on or near the allotment(s) their livestock graze, and herd their livestock to and from their dwellings daily." How will the operators utilizing this type of livestock management system survive during the mining operation? Will the resulting post-mine ecosystem have the required components and stability to support this type of management or utilization? In the event of collapse of reclaimed vegetation post-bond release, how will surface owners/operators survive?

What is the basis for determination of the suitability of the soil or overburden materials for the reclamation of drastically disturbed land. Several such guidelines exist in State regulatory guidelines for the reclamation of surface mined coal and others have been prepared for wider use (National Soils Handbook (SCS), EMRIA (rev.), SEAM, Schafer, etc.) To generalize and say that the area has a low to moderate reclamation potential is not satisfactory.

4

Page 3-33. Although BLM's assessment concludes that there is potential for significant socioeconomic impacts in certain communities (i.e., Cuba, Milan, Crownpoint), there is no discussion of impact mitigation options. It would be helpful to include a discussion of mitigation measures in accordance with CEQ regulations 40 CFR 1502.14, the Mineral Leasing Act, Section 30, and implementing regulations of FLMMA. It is suggested that the New Mexico State BLM Office include the attached stipulations on the PRLA's considered in the DEIS. This stipulation is applied to all PRLA's within the Colorado Green River-Hams Fork Region and would also be appropriate in the San Juan River Region.

VEGETATION

The EIS should include acreage figures for individual mapping units of both the soil associations and the vegetative types for the region (recognizing they are approximations). Preparation of the estimates of the total AUM's that will be lost is of considerable importance in evaluating the total impact on regional agriculture. Comparison of the loss in total AUM's that the land now supports is important and should be added. The assumptions for livestock use of the reclaimed sites (the length of time prior to instituting utilization, seasonality of use compared to the pre-mine site, etc.) should also be stated.

Page 2-13. "Sandy soils can be added to saline-sodic soils to change the salt/sodium exchange levels through mixing and layering." The reasoning or suggestion is not valid in that huge quantities of sandy soil would be required to dilute the exchange complex of clayey sodic soil types. The additional requirement for relatively complete mixing of the two materials makes the task even more difficult to accomplish. Also, the sand and loamy sand soils have very limited water-holding capacities, cation-exchange capacities, and nutrient pools, which are, in themselves, serious limitations to plant growth.

Page 2-13. " * * * reclamation may be limited for some of the tracts because of soil characteristics found within certain land types. The amount of these soil types and their limitations for reclamation will not be fully known until soil surveys are conducted on the competitive coal lease tracts and reclamation plans submitted and implemented by companies." The analysis must provide some

3

Relatively large amounts of regional geochemical data are available. Sources include EMRIA reports developed by the BLM, USGS Professional Papers, mine plans, literature, etc. The potential for the development of toxic substrates in the plant rooting zone must be addressed, particularly when such data are available. What are the dominant limitations in the overburden/soil chemical environment which influence reclamation success? Are there any potential biogeochemical problems which could influence livestock thriftiness, such as Cu/Mo deficiencies, toxicities, or aberrations of their normal ratios?

The EIS suggests in several sections that revegetation can be accomplished. Evidence should be cited that such efforts have been attained on similar or related soils and precipitation zones. What data are available to suggest that the product of the revegetation effort is " * * * a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area " * * * (30 CFR 816.111)? Several references NAS Soil, Coal and Society cast doubt on the long-term success without continued input of amendments or supplemental moisture by man.

WILDLIFE

OSM feels that the discussions and assessments regarding fish and wildlife resources of the region are too brief and often incomplete. Since this action will affect a minimum of 70,800 acres, we believe that impacts on fish and wildlife resources deserve a more thorough and reasonable treatment in the EIS. Specific comments follow.

Chapter 2 should include a description of the various wildlife habitats present in the region. Often these overlap with plant community descriptions but usually include special habitat features, such as riparian zones, rock outcrops, cliffs, stock ponds, etc. Also, the special value of these habitats as wintering or breeding grounds and stop-over locations for migratory species should be discussed.

Page 2-25. The EIS states that no habitat for threatened and endangered species has been identified. This statement omits the habitats foraged by wintering bald eagles. This impact should be acknowledged or contrary information should be supplied.

5

Pages 3-12 through 3-14. The impact discussion is confined to species of high Federal interest. This section should be expanded to include impacts on the entire wildlife community of the region. This same suggestion applies to the statements on page 3-42.

Page 3-51. The mitigating measures presented are incomplete. It would be helpful to describe the numerous mitigation measures that could apply to these operations which would minimize impacts on wildlife. Some of these would be:

- o Habitat restoration.
- o Employee education to reduce harassment and poaching.
- o Speed limits to reduce road kills.
- o Proper powerline design to avoid raptor electrocution.
- o Buffer zones around raptor nests where appropriate.
- o Improving water availability and protecting such sources from livestock abuse.
- o Revegetation plans utilizing wildlife food and cover plants.

The discussion of unavoidable impacts is incomplete. Such a discussion should include all of the indirect impacts on wildlife resulting from increased human activity and the additional loss of habitat due to housing and service facility construction.

Page 3-69. There appears to be a wording error in the second paragraph where it is stated that no raptor "meeting" sites would be removed. Should this term be "nesting"?

6

(4) A statement of the perceived roles and responsibilities of the lessee, the affected local governments, and the State of Colorado, relating to the technical and financial needs of the affected communities.

A determination for completeness will be made by the BLM. The Bureau will give this impact mitigation study available to the State and local governments.

(c) Lessee shall comply with all valid and enforceable laws and regulations of Federal, State, and local governmental authority.

(a) The lessee shall grant public access to public land adjacent to the lease by means of existing roads, trails, or ways. If the lessee must destroy or obstruct an existing route the lessee shall provide an alternate route of equal quality. Public lands within the lease area and roads, trails and ways constructed by the lessee, shall be made accessible to the public unless such access would interfere with mining operations or create a safety hazard. Limiting access within one-half mile of buildings and work areas should be adequate for this purpose. Any additional limitation must be approved by the BLM.

(f) Cultural Resources - (1) Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the authorized officer of the BLM or of the surface managing agency (if different) on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease-related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archeologist, historian or historical architect, as appropriate), approved by the authorized officer of the surface managing agency (BLM if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Regional Director of the Office of Surface Mining (or the District Mining Supervisor if activities are associated with coal exploration outside an approved mining permit area) and the authorized officer of the BLM or the surface managing agency (if different). The lessee shall undertake measures, in accordance with instructions from the Regional Director (or the District Mining Supervisor if activities are associated with coal exploration outside an approved mining permit area), to protect cultural resources on the leased land. The lessee shall not commence the surface disturbing activities until permission to proceed is given by the Regional Director (or the District Mining Supervisor if activities are associated with coal exploration outside an approved mining permit area).

(2) The lessee shall protect all cultural resource properties within the lease area from lease-related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation plan or exploration plan.

(3) The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

It is the intent of the BLM to provide the lessee with a copy of the impact mitigation study and the plan may be considered without state comment.

(c) The lessee shall prepare and submit to the BLM concurrently with the filing of its mine plan, a socio-economic and transportation impact mitigation study, concerning offsite aspects of the proposed development, which will include a factual statement of the following:

(1) The estimated number of employees the specific lease operation will require during its phases of construction and operation; the estimated multiplied population attendant to that employment; and where that population is anticipated to reside.

(2) Based on information acquired in consultation with state and local government, an analysis of the estimated effect of that population influx upon the county and community infrastructure, including:

- (i) the transportation system at the county and local level,
- (ii) the domestic water requirements,
- (iii) the domestic sewage treatment facilities and collection system requirements,
- (iv) the requirements on the educational facilities,
- (v) the requirements the new population will impose upon the fire and police protection systems,
- (vi) the requirements that the additional population will make on local government service systems, with primary emphasis upon the normal public works of both county and municipal governments,
- (vii) the requirements on the human service system,
- (viii) the requirements imposed upon the parks and recreation system, and
- (ix) an estimate as to the need, by type and amount of housing which the new population will require on a community by community basis.

(3) A statement of the immediate impacts and long term effects of mining on transportation facilities within the state, including:

- (i) the estimated transportation mode(s), route(s), and frequency of trips for the extracted resource,
- (ii) contemplated construction of transportation facilities,
- (iii) the estimated effect of any truck movements on the rate of roadway pavement deterioration, on the design life of the transportation mode, on the level of service repair and on overall safety to the motoring public, and
- (iv) a discussion of those measures which can mitigate impact on those transportation modes such as proper signing, lighting, and design of access to and from public roadway(s).



United States Department of the Interior
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April 8, 1983

Mr. Richard T. Watts
BLM, Farmington Resource Area
P.O. Box 568
Farmington, NM 87499

Dear Mr. Watts:

Thank you for the opportunity to comment on the draft San Juan Basin Cumulative Overview. The staff of the Western Technical Center has reviewed the document and our informal comments, by discipline, are enclosed.

When the final EIS has been prepared, we would appreciate receiving four copies. Once again, thank you for the opportunity to comment. If you have any further questions, please direct them to Charles M. Albrecht, Chief, Environmental Analysis Branch, Western Technical Center, (FTS) 327-5656.

Sincerely,

Richard E. Danner
for Allen D. Klein
Administrator
Western Technical Center

Enclosure

cc: Gene Day, NMSO, BLM

COMMENTS ON THE DRAFT SAN JUAN BASIN CUMULATIVE OVERVIEW

CULTURAL RESOURCES

Table 1-6 (page 1-21). It would be useful to include the potential impacts to cultural resources in table 1-6.

Although presented in a number of site-specific EIS's, a more detailed discussion of the nature and magnitude of cumulative impacts to cultural resources should be presented in the Affected Environment chapter. Further clarification and an expansion of the interactions between direct and indirect impacts to cultural resources would be useful. The cause-and-effect relationship only magnifies the impacts and contributes to a greater loss of sites and information.

A note of urgency could be added to the Suggested Mitigation section. Now is the time to begin the planning, rather than waiting until conflicts arise between the resource and mining.

SOCIOECONOMICS

The benefits of delaying the construction of the New Mexico Generating Station units 2, 3, and 4 (NMGS draft EIS, p. 5-10) should be discussed in the Cumulative Overview. These benefits should be assessed in terms of the cumulative socioeconomic impacts identified in Part 3.

Page 3-38. The Overview narrative states that socioeconomic impact mitigation measures are found in the NMGS and the SJRRCL EIS's. However, the NMGS EIS primarily addresses housing mitigation measures. No mitigative measures addressing identified socioeconomic impacts are presented in the SJRRCL EIS. It is suggested that both these EIS's more fully examine the opportunities to alleviate, in all significant areas, the socioeconomic impacts associated with the proposed actions. The Cumulative Overview should then summarize and reconfirm the need to mitigate the adverse impacts.

1

VEGETATION

The cumulative impacts of the coal development on the agricultural base in the area were not addressed. Withdrawals of land for strip mining, development activities associated with the deep mines, powerplants, rights-of-way for powerlines, railroads, highways, and other roads and pipelines will certainly have a cumulative impact on the agricultural base. The long-term impact is, at best, speculative at this time because of the lack of long-term revegetation studies or efforts but certainly deserves to be addressed in this Cumulative Overview. The total acreage directly affected by all aspects of the development was not obvious in the report. It would be beneficial if the following issues were addressed: How much of an impact has already taken place by coal development activities in the region? Minimum sizes exist for economically viable rangeland based agricultural units, and this should be addressed in lieu of the proposed changes in land use patterns suggested herein. How many of these types of units will be impacted? How will the impacts be mitigated? The livestock industry will have to respond to the loss of springs and seeps and/or drawdown of aquifers by deepening or developing new wells. Under the condition of today's market place and economy, not many ranching enterprises are anticipated to have the excess capital for the implementation of such mitigating measures.

The report seems to accept the thesis that successful long-term revegetation can be carried out on all disturbed sites. Such efforts must meet the diverse, effective and permanent criteria established by SMCRA. The issue of reclamation/revegetation of both stripped coal lands and the associated corridors, or rights-of-way, must be addressed. Attenuate stabilization of the landscape, seasonality and productivity of the postmine plant communities, as well as the palatability and quality/toxicity of the forage produced, are included in this requirement. Many of the soils in the area are highly susceptible to erosion (wind and/or water) and will be difficult to stabilize and reclaim simultaneously.

The soil limitations to reclamation are compounded by an extremely arid environment, which was not addressed in the document. Again, if the authors believe there is no limitation to long-term permanent revegetation efforts requiring no input or attention from man's technology, then specific data or studies documenting these conclusions should be cited. It is certain that some accelerated

2

erosion will occur, lessening the productivity of the site and generally reducing the production on the site where the sediment was deposited, at least in the short term. Serious losses of this type should be addressed.

Table 1-9--Summary of affected resources considered in the Cumulative Overview (page 1-31). The table does not list soils, vegetation, or agriculture among the affected resources. With the levels of disturbance described, cumulative or synergistic types of impacts on both soils and vegetation will take place. For example, accelerated erosion will frequently increase the amount, and lessen the time, of concentration of runoff. The cumulative effect could result in limiting the effective precipitation and, subsequently, forage production in the area. Also, the Ah-shi-sle-pah Wilderness Study area, which will experience a significant adverse impact according to table 1-2 (on page 1-9), is not considered in this table and probably should be included.

Several of the impact assessments for individual actions, such as the powerplants and regional EIS, mention impacts on threatened and endangered (T and E) plant species. The increased access to remote areas will increase pressure on the T and E plants. The cumulative effect of all portions of the development will intensify this disruptive factor. Disturbance of relatively large amounts of rangeland from the coal development and ancillary activities will increase grazing pressure unless commensurate reductions in livestock numbers take place. Increasing grazing pressure frequently results in reducing or losing the populations of T and E plant species.

WILDLIFE

The cumulative impacts of the six proposals on fish and wildlife habitat were not addressed in the Cumulative Overview. Inasmuch as the PRLA proposal, by itself, will directly affect some 36,000 acres, this impact in conjunction with the other proposals will mean a significant cumulative impact on fish and wildlife resources. It is suggested that BLM expand the scope of the Overview to include impacts on fish and wildlife.

3

In summarizing the various proposal impacts on wildlife, the present scope of the narrative seems too limited. For example, in tables 1-6 and 1-7, the impacts are confined to loss of some crucial mule deer winter range, potential impacts on raptors, and threatened/endangered species. It is suggested that these summaries be expanded to include the assorted impacts, both direct and indirect, on the other species in the area, as well as the impacts on the entire wildlife community in the project areas.

Since the scope of this Overview did not include wildlife, the Affected Environment and the Environmental Consequences chapters lack wildlife discussions. OSM suggests that the Overview be expanded to include wildlife in these two chapters.

4



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April 8, 1983

Mr. Richard T. Watts
BLM, Farmington Resource Area
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Dear Mr. Watts:

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Sincerely,
Richard E. Danner
for Allen D. Klein
Administrator
Western Technical Center

Enclosures

cc: Gene Day, NMSO, BLM

associated with coal development needed to supply the NMGS. However, it would be helpful if BLM would further identify (page 1-13): (1) coal production requirements by year for the proposed powerplant, (2) the direct and indirect labor requirements for production of the NMGS coal supply, and (3) the total population change by year associated with the increased coal development. These data should also be included in table 1-5. By providing these data, the total projected (i.e., NMGS and coal supply requirements) population can be assessed.

Page 5-10. Narrative states that it would be beneficial to delay construction of units 2, 3, and 4 to reduce localized socioeconomic impacts. It would be useful for BLM to discuss why this alternative was not considered under the "Agency's Preferred Alternatives."

Page 5-11. It would be helpful to include a discussion of the implications of the Navajo-Hopi Relocation Act on the NMGS project and proposed new town. There appears to be a potential conflict between land proposed for these projects and the disputed Navajo/Hopi land.

Page 1-27. Discussion should include assumptions concerning the percent in-migration of NMGS operation labor.

Page 1-30. It would be desirable to provide a more thorough discussion of the appropriate measures to mitigate identified socioeconomic impacts (40 CFR 1502.14). It would also be helpful if both the applicant and the BLM provided a statement of commitment in the draft EIS to implement the socioeconomic mitigation plan. The following sentence change (page 1-30) is suggested: The applicant would implement those mitigation measures which "would enhance any potential opportunities to improve impacted local facilities and services utilized by both Native Americans and all other local residents whenever possible."

It would be desirable for the applicant to provide a more specific commitment to hire Native Americans. The potential benefits of doing this (i.e., reduced in-migration) should be analyzed and presented in Chapter 3.

The NMGS-related population impacts on reservation communities, such as Shiprock, should be reassessed. Page 2-5 of the socioeconomic Technical Report

COMMENTS ON THE NEW MEXICO GENERATING STATION DRAFT EIS

AIR QUALITY

Page 5-2. Would the air quality increases be less than the PSD increments?

Table 2-4. The Federal Secondary Standard for TSP is 60 ug/m³, not 75.

Page 3-1. The indicator of significance should be the PSD increment, not the National Ambient Air Quality Standards, because the station will have to meet the PSD increments, and, if they cannot, then no approval should be granted by EPA. Therefore, all comparison should also be to those increments.

Chapter 3. This chapter should include maps that show the isopleth of pollution concentrations because the technical report may not be available to everybody. Also, a summary of air quality emissions should be included.

Page 3-3. What air quality model was used to predict concentrations?

HYDROLOGY

It appears that the hydrology impacts are all discussed, but, because the detail is in separate technical reports, it is very skimpy in this document.

The major issue for the NMGS is whether 35,000 acre-feet per year of water can be made available. Because the San Juan River is already fully appropriated, this water can only come from purchase of existing appropriations. The impact of this is not discussed in the EIS (although it may be in the technical reports).

SOCIOECONOMICS

In general, the draft EIS presents a comprehensive overview of the potential economic and demographic impacts associated with the development of the NMGS. BLM acknowledges (page 3) that OSM will do the site-specific analysis of impacts

states that impacts would be negligible; however, in a report commissioned by San Juan Coal Company (La Plata Mining and Reclamation Plan, November 1982), Shiprock is projected to grow from its 1980 population of 7,237 to about 10,400 by the year 2005. A copy of the report is enclosed for your information. The majority of this growth is attributable to energy development, including the proposed NMGS. BLM should attempt to define (possibly by previous or new residential surveys) the number of Navajo currently and potentially relocating on, or shifting residency within, the reservation to obtain NMGS-related jobs. A more accurate assessment of the ability of reservation communities to accommodate increased growth could then be made.

Page 3-25. It would be helpful to provide a table of NMGS population impacts by year and by community with a column depicting percentage increase over baseline population growth.

A discussion of potential social impacts resulting from the project should be included in Chapter 3. The 1982 BLM "Guide to Social Assessment" could be used to document social change within the study area.

It would be helpful to provide a discussion of the relationship between projected population growth and the need for the new town. The existing analysis does not support the development of the new town or BLM's recommendation to make public lands available for the town site.

Table C-4. This table should be corrected regarding the status of the La Plata mine. This mine is proposed, not permitted, and, therefore, not under development. The status of the Animas-La Plata water project should be re-confirmed. Since this project has not received funding, it may be more appropriate to include the project in the Baseline 2 projections.

VEGETATION

Page 1-27. Under the section on applicant-committed practices, it is suggested that the highly expansive soils will be treated with lime to restrict soil expansion. Such treatment may limit the problem under specific conditions but

certainly will not solve the problem. The addition of divalent cations may tend to limit the expansion characteristics of such soils, particularly if they are hydrogen ion saturated as is the case in some of the cat clays, but, in many instances, the Vertisols have free lime in them while retaining their vertic characteristics. Soil series of the latter type have been recognized in Montana and North Dakota, as well as several of the soils described by Thorp, Dudal, and Fisher in East Africa.

Page 1-27. Applicant-committed practices - As an erosion control measure, it is suggested that the trenches will be constructed directly down steep slopes rather than across them. In most situations, it would be better to construct such facilities or to cultivate across the slope rather than straight down the slope. The latter results in an extremely unstable condition where downcutting of the channel will almost certainly occur.

Pages 1-28 and 1-29. Applicant-committed practices "protect soil resources where appropriate by mulching denuded areas or covering with jute fabric or riprap, topsoiling, using drainage control (e.g., waterbars) measures, and reseeded." To effectively protect the soil resource, reestablish vegetation, and control soil erosion, the practices and conditions where they will be applied will have to be much more specific than described. For example, the seeding mix should be dominated by native species so the reclaimed community type(s) will persist after the technological inputs are removed from the reclaimed areas. Detailed soil and vegetation inventories of the rights-of-way and the facility site must be accomplished after final selection of the route. Such information is required for the planning and execution of surface reclamation and/or revegetation. These inventories will also be valuable in locating populations of threatened, endangered, or State-sensitive plant species.

Page 1-29. Under the vegetation section, a statement should be included that all topsoil or other materials such as the B and C horizons of the naturally occurring soils should be salvaged for use in the revegetation effort wherever they are being moved or removed during the construction of any of the facilities covered in this action. Suitabilities for topsoil use of soil materials must be determined from the detailed inventories described in the preceding paragraph (re:

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addition, the importance and potential for observing elevated levels of fluoride as the result of powerplant operation has been well documented. With the significant potential for impact upon the ecosystem by these elements, the large amount of baseline data available for coal, soils, and plants in the impact area, and inherent fragility of ecosystems such as these, it is imperative that some analysis be made of the impact.

Page 2-9. Several of the soil series identified in the soil association map of the region as classified as Ustollic Haplargids or Ustollic Camborthods, suggesting that they have some significant enrichment of organic matter. The field identification of soils from these two subgroups could potentially provide an excellent source of topsoil material which is vital to successful revegetation, particularly of critical areas.

WILDLIFE

Page 5-8. The summary of impacts on wildlife should touch on more of the impacts expected, specifically:

- o Human-related disturbances, such as road kills, poaching, indiscriminate shooting, harassment, etc.
- o The greater loss of wildlife habitats due to housing and service facility construction.

Page 3-15. Regarding threatened and endangered species, the BLM should explain if it has requested concurrence from the USFWS on the "no effect" findings and opinions on the "may affect" determinations. If this has been accomplished, the BLM should reference such consultation.

Page 3-32. The BLM has not put the 48 cfs reduction in the San Juan River flow in the proper perspective. The EIS downplays the reduction by comparing it to peak flows. Since the aquatic communities below the intake location depend on minimum flows, the 48 cfs loss must be related to those crucial periods.

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pages 1-18 and 1-29) of this review. Criteria for determination of suitabilities can be based on some of the published guidelines for soil use in reclamation, such as SEAM, EMRIA, Schafer, etc.

Page 1-29. " * * * revegetate disturbed areas within rights-of-way with vegetation recommended by wildlife specialists * * *." The direction suggested by this statement is wrong. The first responsibility of the reclamation or revegetation effort should be to stop or limit all offsite impacts from the action described commensurate with stopping all soil erosion. If this primary goal can be accomplished utilizing plant species valuable for wildlife forage, it would be excellent, providing those species fit with the land use planning goals developed for the area. The first characteristics by which plant species would have to be selected would be their ability to establish a " * * * diverse, effective and permanent vegetative cover * * *."

Page 1-29. All of the area to be disturbed by the actions addressed in this EIS should be surveyed by qualified personnel for special status plants instead of the " * * * areas of potential habitat for special status plants indicated to be most likely affected by the project." Such inventories must be carried out by trained plant taxonomists who have extensive backgrounds in special status plants. Detailed studies such as these are absolutely required because of the lack of knowledge about the special status plants, the habitats with which they are associated, and their distribution in any particular area. The New Mexico Department of Natural Resources, Natural Heritage Program, has accomplished some excellent work on special status plants under the direction of Paul Knight, and it is strongly suggested that he be directly involved in developing the above program.

Page 2-2. Air quality. A narrative section should be included in an EIS of this type on the impact of the powerplant effluents and potential contamination of the soil-plant-animal complex. An inordinate amount of trace element data is available for the area--four EMRIA reports: Gough and Severson (1981), Severson and Gough (1981), Erdman (1978), and Erdman, Shacklette, and Keith (1976)--providing both data and methods for evaluating such impacts. The work of Connor (1977) identified sulfur, selenium, lead, zinc, copper, and strontium as elements that are prime suspects for stack emittents downwind from a powerplant. In

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
1792 (330)

Memorandum

To: State Director, New Mexico
From: Chief, Division of Rights-of-Way
Subject: BIA Comments on the New Mexico Generating Station
Draft Environmental Impact Statement

Enclosed are comments received from the Chief, Division of Resource Development and Protection of the Bureau of Indian Affairs (BIA) concerning the Hydrology Report prepared as part of the Draft Environmental Impact Statement (DEIS) for the New Mexico Generating Station and Possible New Town.

Please see that BIA's concerns are addressed in your review of comments received in response to the DEIS Notice of Availability.

Enclosure

Jeff Brinkman



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
ALBUQUERQUE AREA OFFICE
P.O. BOX 4527
ALBUQUERQUE, NEW MEXICO 87106

IN REPLY REFER TO
JDS - Environmental
Quality

FEB 1 1983

Memorandum

To: Deputy Assistant Secretary - Indian Affairs (Operations)
Attention: Environmental Services Staff, Code 204

From: Chief, Division of Resource Development and Protection

Subject: Review of Draft Environmental Impact Statement (DEIS), "Public Service Company of New Mexico's Proposed New Mexico Generating Station (NMGS) and Possible New Town"

The above noted Environmental Impact Statement has been developed by the Bureau of Land Management (BLM). At an early stage in the production of this environmental document, the Albuquerque Area Office agreed to be a cooperating agency. Since that agreement, the Albuquerque Area has reviewed technical reports and the Preliminary DEIS. During these reviews a number of concerns relative to hydrology emerged. These concerns were communicated to BLM and never received what we regard as adequate attention. Therefore, we are listing what we regard as the major concerns which we hope that your office can bring to the attention of the BLM.

Generally we feel, and we understand that other sister agencies concur, that the need for the project has not been substantially demonstrated, and that the "no action" or "no build" alternative is the most logical choice for selection as the Department of the Interior's preferred alternative.

Specifically, we feel that discussion of hydrology is deficient both in the DEIS and in the technical reports.

The following comprises a partially list of our technical concerns with the Hydrology Technical Report.

1. The Public Service Company of New Mexico has applied to the State Engineer for permission to appropriate 40,000 acre-feet of ground water per year. The intended uses of the 25,000 af/yr not needed for NMGS should be briefly identified and the relationship of this (these) project(s) to NMGS should be specified.

-2-

2. The drawdowns projected by the DEIS are based on a model discussed in detail in the Hydrology Technical Report (T.R.). The groundwater withdrawals used by the model (T.R. tables 4-7 through 4-11) do not appear to be consistent with the actual data (T.R. tables E-1 through E-4). This appears to be particularly true for the pre-1980 period. A few examples of the apparent inconsistencies during the pre-1980 period follow:

- a. Where are the City of Gallup withdrawals? Tables E-1 assumes that 1/3 to 1/2 of the City's supply came from the Westwater during this period.
- b. Where in Table E-1 is the information supporting the figures used for Manero Lake Mine and the Ambrosia Lake Area Mines?
- c. Were the withdrawals from the Dakota sandstone modeled for the pre-1980 period? Where is the tabulation of the data used?

We believe that the above listed concerns should be brought to the attention of the Department's Office of Environmental Project Review, if answers cannot be obtained from BLM.

If you have any questions, please advise.

Larry Welch
Chief, Division of Resource
Development and Protection

STATE OF NEW MEXICO



STATE OF NEW MEXICO
SANTA FE

TUNEY ANAYA

April 8, 1983

RM 1010

Charles W. Luscher, Director
U.S. Bureau of Land Management
Department of the Interior
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

As Governor, Attorney General, and Commissioner of Public Lands for the State of New Mexico, we want to thank the Bureau of Land Management and the Department of the Interior for extending the comment period on the Draft Environmental Impact Statements for the New Mexico Generating Station, (NMGS), the Wilderness Study Areas (WSAs), and the San Juan River Regional Coal Leasing Program.

The State of New Mexico realizes what a difficult and arduous task the Bureau of Land Management (BLM) faced in preparing these three documents. Through this letter, we would like to provide you with New Mexico's overall policy recommendations on the three documents and then some general comments regarding each individual document.

I. Overall Recommendation on the Three Documents

We want to reiterate our realization of the work BLM put into the preparation of these documents. However, due to numerous and very significant deficiencies found in the documents by various state agencies, we strongly recommend issuance of supplemental draft environmental impact statements for all three documents. In addition, we would also recommend a re-opening of public comment on the documents.

We feel our recommendation is substantiated by the fact that the documents are not of NEPA quality, thus making them legally deficient and potentially subject to challenges via litigation. Furthermore, there is sufficient time available for the supplemental drafting and re-opening of public comments due to the following: 1) at this time, NMGS is not a pressing need; 2) there is no apparent need to rush Congressional deliberation of the wilderness areas; and, 3) BLM has already postponed the San Juan Coal Lease Sale until December, 1983/January, 1984.

Charles W. Luscher
April, 8, 1983
Page 1

- c. As stated previously, where conflicts exist between PRLAs and the wilderness areas, the BLM should make every effort to explore and allow for exchanges.
- d. Every effort should be made to provide relocation assistance to Native Americans who will be impacted by the development of the PRLAs.

In addition, it is our understanding that determination of commercial quantities of coal does, indeed, consider environmental management and reclamation costs and is an open process. We strongly urge the BLM to work with the State of New Mexico during this process and we will, of course, have input during the time of the final showings of the process.

2. Competitive Coal Leasing

With the overall depressed state of the economy and, in particular, the depressed markets for coal, the State of New Mexico recommends that the Secretary of the Interior consider a leasing strategy for the San Juan which includes: 1) at the present time, a further postponement of competitive leasing in the San Juan Basin; and 2) a phased offering of delineated tracts at such time when leasing does become more economically viable.

We feel this recommendation is further substantiated by additional factors. For example, the uncertainties surrounding construction of a railroad in the San Juan and the litigation undertaken by the Navajos certainly contribute to reducing the value and true economic potential for competitive leasing in this area. Furthermore, the economic benefits to flow back to both the federal and state governments from competitive leasing will be much higher when demand/markets for coal are at a higher level than presently demonstrated.

However, if the Secretary of the Interior does, indeed, insist on offering the leases in December, 1983/January, 1984, we would insist that, at a minimum, the issues presented below be addressed.

- a. Determination of Fair Market Value must be made prior to leasing. A discounted cash flow method should be used.
- b. The first phase of any competitive coal leasing should be limited to "by-pass tracts" and only those tracts of a demonstrable competitive nature which will provide true Fair Market Value for any coal produced.
- c. Additional consideration must be given in the cultural, historical, social, environmental and other values which would be disrupted by coal production.

Charles W. Luscher
April, 8, 1983
Page 2

II. General Recommendations on Contents of Each Document

A. Wilderness Study Areas

The State of New Mexico urges that all three wilderness study areas be recommended to Congress for wilderness designation. However, we urge that any potential conflicts between these areas and the PRLAs be resolved as expeditiously as possible (See comments under PRLAs).

B. New Mexico Generating Station

The State of New Mexico has been made aware of the fact that the load forecasts utilized in the DEIS are now inaccurate. In addition, according to Public Service Company of New Mexico (PSNM) statements, the earliest date the Company would have a need for the NMGS has been set at about 1995. Therefore, we recommend the BLM dismiss PRM's application without prejudice and allow the Company to refile at a point in time closer to PRM's filing of an application for a Certificate of Convenience and Necessity before the New Mexico Public Service Commission.

C. San Juan Coal Leasing

1. PRLAs

Treatment of the impact upon the State (in every respect) from the development of the PRLAs was totally deficient in the DEIS. At the very least, we recommend that a supplemental draft environmental impact statement address the issues listed below.

- a. Prior to issuance of a lease, determination of Fair Market Value should be made. The DEIS provides no discussion of the extent to which the Secretary of the Interior is permitted to assess Fair Market Value in the processing of these coal preference right applications. We believe that the Secretary has the discretion to recover Fair Market Value for preference right leases through a bonus lease term or a royalty or rental which exceeds the statutory or regulatory minima. We urge the Secretary to exercise this discretion in the public interest when the estimated revenues of a mining venture exceed the estimated costs (calculated on a minimum production royalty, no-bonus basis). In these instances, it is highly appropriate to recover more than a minimum production royalty in exchange for the lease of the coal resource.
- b. Stipulations for PRLAs must be site specific in order to protect paleontological, cultural, historical, environmental and other values contained within the PRLA areas. Without site specific stipulations, mitigation efforts will not be successful.

Charles W. Luscher
April, 8, 1983
Page 4

- d. Consideration should be given to providing federal assistance for socio-economic impact mitigation efforts (i.e., federal energy impact aid) to New Mexico's impacted communities and, more specifically, to Native Americans affected by the coal leasing program.

We also feel that with respect to Native Americans it is very important, at this time, that only non-irreversible decisions/actions be undertaken by the Department of the Interior and that every effort be made to minimize any adverse impacts related to Native Americans.

The State of New Mexico strongly urges the BLM to give serious consideration to our recommendations. We would again request that supplemental draft environmental impact statements be prepared. In this regard, we offer our technical and substantive comments which have been prepared by various agencies of the State as appendices to this letter. We further offer any and all assistance and expertise toward the drafting of the supplemental documents.

In closing, the State of New Mexico supports the wilderness designations, would like a deferral of a decision, at this time, on the New Mexico Generating Station, and supports leasing of coal on Federal lands within our State only if the benefits, in all respects, far outweigh the costs to New Mexico.

Thanking you in advance for your consideration of our views, we are

Sincerely,

TUNEY ANAYA
Governor

PAUL NARDACKE
Attorney General

Commissioner of Public Lands

cc: Commenting Agencies (without attachments)
Congressional Delegation (without attachments)

GENERAL SUMMARY OF STATE OF NEW MEXICO COMMENTS ON
THE DRAFT ENVIRONMENTAL IMPACT STATEMENTS FOR
THE SAN JUAN COAL LEASING PROGRAM, THE NEW MEXICO
GENERATING STATION, AND THE WILDERNESS STUDY AREAS

INTRODUCTION

In November of 1982, the U.S. Bureau of Land Management (BLM) issued a set of Draft Environmental Impact Statements (DEIS) relative to the San Juan River Regional Coal Leasing Program, the Wilderness Study Areas (Bisti, De-Na-Zin, and Ah-Shi-Sle-Pah WSAs), and the New Mexico Generating Station. These three documents cover the impacts of development of 26 Preference Right Lease Applications (PRLAs) and four alternative levels of competitive coal leasing in the San Juan Basin; the construction of a 2,000 megawatt coal-fired power plant; and the designation of federal wilderness areas in the Bisti region.

Subsequent to the release of these documents, the State of New Mexico, the Navajo Tribe, and other citizens' groups requested an extension of the deadline for the comment period of sixty days. The extension was requested in order to more accurately and substantively comment on the actions contemplated in the three documents. The U.S. BLM did grant the extension, moving the deadline for written comments to close of business, April 8, 1983.

At the outset, the State of New Mexico wishes to express its appreciation to the BLM for the extension and hopes that the BLM will feel the extended comment period was time well spent by the various state agencies that reviewed these important documents.

What follows is a brief expansion of the general policy recommendations contained in the letter sent to the Director of the New Mexico State Office of the BLM by the Governor, Attorney General, and Commissioner of Public Lands for the State of New Mexico based on specific agency comments.

POLICY RECOMMENDATIONS

I. Overall Recommendations

In their letter to the Director of the BLM New Mexico State Office, the Governor, Attorney General and Commissioner of Public Lands presented an overall position for the State of New Mexico on the three documents which requests the BLM to issue supplemental draft environmental impact statements for each document. It is the State's position that numerous and very significant deficiencies are contained in these documents which leave them not of NEPA quality and legally deficient.

For example, the geology of the coal resources of the San Juan Basin has been examined by the State in great detail in a number of publications. It appears in the DEIS on San Juan River Regional Coal Leasing that the

bidding rights on federal coal for applicants who secure PRLA leases which conflict with wilderness values. The way could thus be made clear for the designation of Ah-Shi-Sle-Pah as a wilderness area. While recognizing that this would, at least while the wilderness designation were maintained for Ah-Shi-Sle-Pah by Congress, preclude the mining of \$4.6 billion worth of coal having a Federal Royalty Value of \$580 million, we have concluded that efforts to maintain wilderness values justify this cost.

Analytically, it is difficult to understand the decision which the Wilderness FIS is designed to support. The San Juan Basin Management Framework Plan announced a decision not to recommend Ah-Shi-Sle-Pah for wilderness status. The preparation of an FIS to support a predetermined decision is not in compliance with NEPA. (See 43 CFR 1502.5)

Technical deficiencies in the Wilderness FIS include any attempt to estimate recreational use of wilderness areas in visitor-days per acre by using a constant average of .17 visitor-days per acre per year. This methodology yielded recreational use figures which are clearly inaccurate and which detract from the credibility which can be given the document.

There is an apparent error in Table 2-18. The total acreage given for the Kinbeto Community allotment 6013 is 7,162. The correct acreage should be 166,149 acres.

The treatment of grazing allotment uses within wilderness areas is admitted to be, at page 2-17, based upon limited knowledge of actual livestock operators, livestock numbers, class of livestock and range developments. This must be seen as a serious deficiency of the DEIS.

Finally, with regard to non-allotment grazing rights existing in the area, BLM is urged to explore a management plan which would minimize conflicts between grazing uses and wilderness use and where necessary vigorously pursue a program/exchange to eliminate conflict.

B. New Mexico Generating Station

As noted above, there are many deficiencies and inaccuracies various state agencies have noted in the DEIS. Most importantly, however, is the fact that the need addressed in the DEIS is very different from the current assessment of need demonstrated by public documents currently on file with the State's Public Service Commission which were prepared by (or for) Public Service Company of New Mexico. Public Service Company of New Mexico's own updated information demonstrates that the need proposed in the DEIS no longer exists and the Company's earliest need for NMGS Unit One would be approximately 1995.

Therefore, we feel there is no pressing need for haste in submitting a final FIS. This would allow sufficient time for the preparation of a supplemental draft environmental impact statement and the re-opening of public comment to obtain additional, more accurate, up-to-date information on the purpose and need for NMGS until a point in time when Public

BLM did not utilize this accurate data and the interpretive resources available within several state agencies. Thus, inaccuracies in geologic data occur in this document. Deficiencies also occur in this document relative to paleontology. For example, we have prepared "The New Mexico Paleontology Plan" -- the only set of paleontological mitigation procedures available anywhere in the United States -- which also was not utilized by the BLM.

A further example of a deficiency in this DEIS relates to cultural resources. In various sections of the Coal Lease DEIS and the Overview, statements are made which recognize the existence of federal, state, local, and tribal laws and regulations concerning cultural resources. However, nowhere in any of the documents is there an explicit statement that the spirit and intent of these laws (Antiquities Act of 1906; National Historic Preservation Act of 1966, especially Section 106; National Environmental Policy Act of 1979; Archaeological and Historic Preservation Act of 1974; Archaeological Resources Protection Act of 1979; Cultural Properties Act of 1969) and regulations (36 CFR 800), as well as Executive Order 11593, will be implemented for the various projects.

Deficiencies can also be found in, for example, the DEIS on the New Mexico Generating Station. State agencies found that the DEIS does not clearly show that a discharge plan will be required for the power plant facilities at the NMGS. Further, while the DEIS states that exceedances of standards and criteria for water quality were considered to be significant, they are not discussed or tabulated in the DEIS. In discussing air quality, the DEIS does not contain in-depth information on potential problems that could occur or be exacerbated by the proposed generating station relative to visibility.

We would request that the BLM fully review the specific state agency comments we are including as appendices to this summary to determine the extent of the deficiencies and inaccuracies found by state agencies in their close scrutiny of these documents.

II. General Recommendations on Each Document

A. Wilderness Study Areas

The most compelling reason for delaying the final issuance of the Proposed Wilderness FIS is that decisions regarding wilderness designation are inextricably tied to the coal leasing FIS. As previously stated, the coal leasing FIS contains fundamental flaws which should lead to its rescission in draft form. Issuance of the final Wilderness FIS should await resolution of the related coal leasing issues.

The critical nexus between the coal leasing FIS and Wilderness FIS is the conflict between designation of Ah-Shi-Sle-Pah as a Wilderness area and the issuance of pending preference right lease applications (PRLAs) and the production of coal from the PRLAs. The State of New Mexico advocates exploration of the possibility of exchanging PRLA lease rights for

Service Company of New Mexico goes before the New Mexico Public Service Commission for a ruling on its Certificate of Convenience and Necessity.

C. San Juan Coal Leasing Program

1. PRLAs

Treatment of the impacts to the State of New Mexico in this DEIS relative to the development of the 26 PRLAs was totally deficient. It is not really acceptable to label this development as a "no action" alternative. The effects of leasing 2.2 billion tons of coal must be considered by decision-makers both for the purposes of NEPA compliance and in the formulation of any long-term leasing strategy. In addition, a likely effect of this increased production capacity will be to further deteriorate the already poor market conditions for coal leasing.

At the very least, we would request that a supplemental draft environmental impact statement address the issues listed below.

a. Prior to issuance of a lease, determination of Fair Market Value must be made.

It has been settled that the Secretary of Interior may not reject a preference right lease application if he determines that the applicant has demonstrated the discovery of coal in commercial quantities. *NMPC v. Berkland*, 458 F.Supp. 925 (D.D.C. 1978), *aff'd*, 609 F.2d 553 (D.C. Cir. 1979); *Utah International v. Andrus*, 488 F. Supp. 962, (D. Utah 1979). In evaluating whether the applicant for a preference right lease has demonstrated the discovery of coal in commercial quantities, however, the Secretary is not limited to a consideration only of those conditions which obtained at the time the applicant's prospecting permit was issued. *Montana Eastern Pipeline Co., 55 I.D. 189, 191 (1935)*. Nor is the Secretary limited to a consideration of the legal requirements and economic situation which existed on the date of the lease application. The Secretary's determination of an applicant's entitlement to a preference right lease is based on the law, including both environmental and economic requirements, which is in effect on the date of the adjudication of the application. *N.E.D.C. v. Berkland; Utah International, supra*. In determining whether an applicant should receive a preference right lease, the Secretary must, in short, "consider all legal and economic conditions affecting the proposed operation of the lease." Solicitor's Opinion M-36922 at 29 (Dec. 11, 1979).

The new minimum production royalties set by the Federal Coal Leasing Amendments Act of 1976 (*Pub. L. 94-412*) and 43 CFR 3473.3-2(a) (3), are for example, fully applicable to

pending preference right lease applications, 3473,3-2(a) (3) although the permits on which they are based were issued prior to the enactment of the FCIAA. Solicitor's Opinion M-36920. We emphasize that the Section 6 of the FCIAA, 30 U.S.C. §207, speaks in terms of a minimum royalty rate of 12% percent for surface mined coal (although a lesser rate may be fixed for underground coal). It is obvious, therefore, that the Secretary possesses the discretion to set royalty rates which exceed the statutory minimum under the appropriate circumstances.

The Secretary has also been held to possess broad discretion in establishing the terms of preference right leases. *Utah International, supra*. Since its enactment in 1920, the Mineral Leasing Act has provided at section 30 that leases shall contain such provisions as the Secretary "may deem necessary for the protection of the interests of the United States... and for the safeguarding of the public welfare." 30 U.S.C. §187. One court has stated, for example, that section 30 vests the Secretary with the authority to set lease terms that provide for the protection of the environment. *Berkland, supra*, 458 F. Supp. at 936, *aff'd*, 609 F.2d. To assess fair market value in issuing preference right leases through a bonus requirement or a royalty or rental above the statutory or regulatory mine can serve the interests to be protected by Section 39 and, thus, lies within the Secretary's discretion. We note that a bonus lease term would be the same in concept as a production royalty; it would merely be collected at a different point in time.

Assessing fair market value in the issuance of preference right leases is also consistent with the legislative history of the Federal Coal Leasing Amendments Act. The legislative history reveals a general Congressional desire for recovery of a fair return for coal leases.² In order to "ensure a fair return to the public," for example, the FCIAA imposed a number of new requirements

1 This discretion is analogous to the authority to set production royalty rates higher than the statutory and regulatory minima during the process of coal lease readjustment. See Memorandum of Feb. 16, 1979, from Associate Solicitor, Energy and Resources, to Assistant Secretary, Land and Water Resources, "Readjustment of Coal Lease Royalties."

2 This may be compared to the general policy declaration in section 102 of the Federal Land Policy and Management Act which states that the United States shall receive fair market value for the use of the public lands and their resources, unless otherwise provided by statute.

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on federal coal leasing. Among these requirements are increased production royalties and more frequent readjustment of lease terms. In addition, leases are to be awarded by competitive bidding and not by "such other methods as he [the Secretary] may by regulation adopt," as former law provided; and a bid for a competitive lease is unacceptable unless it is at least as high as fair market value, as determined by the Secretary. H.R. Rep. No. 681, 95th Cong., 1st Sess. 18 (1977). Finally the FCIAA also abolished the preference right leasing system, subject to valid existing rights. It was thought that, as administered, the system contributed to speculative holding of leases by making it possible to gain control of public resources at virtually no cost. H.R. Rep. No. 681 at 15. If the Secretary were to exercise his discretion to assess fair market value in the issuance of preference right leases, he could counteract this infirmity Congress perceived in the system to a certain extent.

- b. Stipulations for PRLAs must be site specific in order to protect cultural, historical, environmental, and other values contained within the PRLA areas. Without site specific stipulations, mitigation efforts will not be successful.

For example, the State of New Mexico has developed "The New Mexico Paleontology Plan" which should definitely be utilized. It is the only set of procedures for paleontological mitigation efforts available anywhere in the United States. A copy of this plan and the Energy and Minerals Department, Mining and Minerals Division administration procedures is included in the appendices.

- c. As aforementioned, where conflicts exist between development of PRLAs and the preservation of wilderness areas, every effort should be made to explore and allow for exchanges.
- d. Every effort should be made to provide assistance to Native Americans who would be impacted by the development of the PRLAs. It is our understanding that at least 55 Native Americans (Navajo residents) would be requested to relocate under the plans for developing the 26 PRLAs. Consideration should be given to providing substantial federal relocation assistance to these residents.

Initially, it was our understanding that the determination of commercial quantities of coal for PRLAs did not include environmental management and reclamation costs and was not an open process. However, BLM has assured us environmental costs are included and that the process is, indeed, an open one. Therefore, we urge the BLM to work with the state during this process. We, in turn, will definitely provide input into the process at the time of final showings for the determinations.

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2. Competitive Coal Leasing

With the overall depressed, recessionary state of the U.S. economy and, in particular, the depressed markets for coal, the State of New Mexico strongly recommends that the Secretary of the Interior adopt a leasing strategy for the San Juan which includes:

1. at the present time, a further postponement of competitive leasing; and
2. a phased offering of delineated tracts at such time when leasing of coal does become more economically beneficial to industry and the federal and state governments.

The State is of the opinion that this recommendation is further substantiated by additional factors. Although the goals which were established for coal leasing may have seemed quite reasonable when they were set in late 1981, more recently significant shifts in the demand for coal have created a situation where those original goals appear to be inappropriate or, at best, overly optimistic. In addition, the State now has better information which addresses the demand for New Mexico coal in the form of the "Coal Market Study" -- a comprehensive study funded by the New Mexico Energy Research and Development Institute which analyzes both the domestic and foreign markets for New Mexico coal. From the data presented in this study, it is apparent that a re-thinking of the current leasing goals is necessary. Additionally, the uncertainties surrounding construction of a railroad in the San Juan (needed for transporting the coal) and the litigation undertaken by the Navajos are also factors which contribute to reducing the value and true economic potential for competitive leasing in the San Juan. Furthermore, the economic benefits to flow back to both the Federal government and the State of New Mexico from competitive leasing will be much higher when demand/markets for coal are at a higher level than can be presently demonstrated.

However, the State of New Mexico feels that if the Secretary of the Interior does persist in offering tracts for competitive leasing then we would insist that, at a minimum, the issues presented below be addressed.

- a. Determination of Fair Market Value must be made prior to the issuance of a lease. A discounted cash flow method should be used in making this determination.
- b. The first phase of any competitive coal leasing should be limited to "by-pass tracts" and only those tracts of a clearly demonstrable competitive nature which will provide true fair market value for any coal produced.
- c. Increased economic benefits would be derived from staggered lease sales. Staggered lease sales would offer the additional advantage of allowing the buyers and seller (the federal government) to reevaluate the market opportunities as the sale of competitive tracts progresses over time.

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- d. Additional consideration must be given to cultural, historical, social, environmental and other values which would be disrupted by coal production.

- e. Consideration should be given to providing federal assistance for socio-economic impact mitigation efforts (i.e., federal energy impact aid) to New Mexico's impacted communities and, more particularly, to Native Americans affected by the coal leasing program. If the State and Native Americans are being asked to participate in a program of meeting national coal production goals, then the federal government should be expected to provide some relocation and other types of assistance to mitigate the adverse impacts of meeting that goal.

The State of New Mexico would now like to submit, for the record, the specific comments of the individual state agencies which participated in the review process of the three documents.

The appendices which follow are divided into three sections, covering each document. The participating agencies are listed below.

1. SAN JUAN RIVER REGIONAL COAL LEASING DEIS (some include comments on the Cumulative Overview)

Comments Submitted By:

- The State of New Mexico State Historic Preservation Officer
- The State of New Mexico Commissioner of Public Lands
- The State of New Mexico Energy and Minerals Department, Resource and Development Division
- The State of New Mexico Energy and Minerals Department, Mining and Minerals Division
- The State of New Mexico Department of Taxation and Revenue
- The State of New Mexico Health and Environment Department, Environmental Improvement Division
- The State of New Mexico Highway Department
- The State of New Mexico State Engineer's Office, Water Rights Division
- The State of New Mexico State Engineer's Office, Interstate Stream Commission Staff
- The State of New Mexico Department of Agriculture
- The State of New Mexico Commerce and Industry Department, Economic Development Division

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- o The State of New Mexico Office of the State Archeologist
- o The State of New Mexico Natural Resources Department
- o Office of the Attorney General for the State of New Mexico
- o New Mexico Institute of Mining and Technology, Bureau of Mines and Mineral Resources
- Also attached is a copy of "The New Mexico Paleontology Plan"

II. NEW MEXICO GENERATING STATION DRAFT ENVIRONMENTAL IMPACT STATEMENT

-- Comments Submitted By:

- o Office of the Attorney General for the State of New Mexico
- o State of New Mexico Public Service Commission
- o The State of New Mexico Health and Environment Department, Environmental Improvement Division
- o The State of New Mexico State Engineer's Office, Interstate Stream Commission Staff
- o The State of New Mexico Department of Agriculture
- o The State of New Mexico State Historic Preservation Officer
- o The State of New Mexico Natural Resources Department

III. WILDERNESS STUDY AREAS DEIS

- o The State of New Mexico State Historic Preservation Officer
- o The State of New Mexico Department of Agriculture
- o The State of New Mexico Natural Resources Department

IV. A - 95 REVIEWS OF VARIOUS AGENCIES

Conclusions

Our conclusions are as follows:

1. All three wilderness areas qualify for designation.
2. The BLM should dismiss PRM's application without prejudice and allow the Company to refile at a point in time closer to PRM's filing of an application for a Certificate of Convenience and Necessity before the New Mexico Public Service Commission.

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3. Coal leasing should occur only if the benefits, in all respects, outweigh the costs to the State.

Any agency listed above can be contacted directly regarding its comments. In addition, the State offers the assistance of these and any other state agencies in the drafting of supplemental draft environmental impact statements and other related work of the BLM.

ENERGY AND MINERALS DEPARTMENT COMMENTS UPON THE SAN JUAN RIVER REGIONAL COAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

The following are specific comments concerning the San Juan River Regional Coal Draft Environmental Impact Statement. In general, the statement is fairly comprehensive, although there are numerous erroneous assumptions used throughout the statement in our opinion. In addition, one specific comment is in order about the general structure of the statement. The issuance of the Preference Right Lease Applications is considered under the no-action alternative. Issuance of PRLA's is certainly not a no-action alternative from an environmental standpoint. Perhaps the final statement should consider the no-action alternative as truly no-action, including non-issuance of PRLA's and then have an additional category which considers issuance of the PRLA's by themselves and its subsequent environmental consequences.

COMMENTS CONCERNING VISUALS WHICH ACCOMPANY THE DEIS:

Visual A would be more helpful if the Star Lake Railroad was plotted on it.

COMMENTS CONCERNING THE SUMMARY:

In the summary on page VIII, next to last paragraph, reference is made to the State of New Mexico Energy and Mineral Division. That reference should be corrected to the Mining and Minerals Division, New Mexico Energy and Minerals Department.

COMMENTS ON CHAPTER I:

On page 1-4, the second paragraph under the no-action alternative, the first sentence states, "in place reserves for leased Federal coal are approximately 2.2 billion tons." It appears that the word "leased" is in error. The correct statement would be "in-place reserves for Federal coal presently leased and PRLA's are approximately 2.2 billion tons." Figure 1-1, entitled, "Coal Production by Alternative for 1987, 1990, 1995, and 2000," implies that there is no limit to the amount of demand for New Mexico coal. Perhaps the figure should be retitled, "Potential Coal Production Capacity by Alternative for 1987, 1990, 1995, and 2000."

On page 1-10 in the first paragraph under Target Alternative, target range is stated as 1.2 to 1.5 million tons of coal, "billion" should be substituted in place of "million". In the second paragraph under Target Alternative, several figures are given as decimals in billions of tons. It would make more sense to use millions of tons in place of those. In the third paragraph under the Target Alternative, the Hoshah No. 1, Gallo Wash No. 2, and Hoshah No. 2 tracts are projected to begin production in the year 2010, 2015 and 2020. There is a conflict in this paragraph since if the tracts are leased in 1983 or 1984, they will not be able to meet diligent

development requirements by beginning production in the years projected. This needs to be either explained as to how they can be leased and wait that long until production starts, or else their projected year of initial production needs to be changed in order to meet diligent development requirements.

In the fifth paragraph under Target Alternative, the statement is made that construction would begin between 1984 and the year 2019. Mines would require four and six years respectively for construction, and production would start during the second year of construction. This statement is entirely erroneous, both for surface and for underground mines, and needs to be substantially clarified. An underground mine may begin production along side with construction if it is a drift mine; in both surface and underground mines, site-specific variables preclude any generalization upon the time required for construction or when production would begin. Under the high-level alternative, second paragraph, on page 1-11, the statement is made that average annual coal production would be approximately .24 billion tons. Perhaps the author meant 24 millions tons, but .24 billion tons is 240 million tons per year.

On page 1-19, third paragraph, instead of State of New Mexico's Energy and Minerals Division, phrase should read "Mining and Minerals Division, New Mexico Energy and Minerals Department."

On page 1-22, third paragraph, which discusses relocation of Navajoes, the entire paragraph is not clear and needs to be rewritten and expanded.

COMMENTS CONCERNING CHAPTER II:

Page 2-1, the next to the last paragraph states that lack of moisture in the EIS region would make reclamation more difficult than in other parts of the country. This statement should be documented and/or expanded to better support the premise. There is successful reclamation in the area already, and rainfall in the EIS region is not too different from other parts in the West where reclamation has been underway and successful for quite some time.

On page 2-7, under the heading Operating Coal Mines, first paragraph, the statement is made that nearly all the mines in the Crevasse Canyon and Henefer Formations are now abandoned. That statement is not true, there are several mines still operating in the Henefer Formation. In the second paragraph, the AMOAL Mine is discussed. The production listed for 1981 for AMOAL was actually the production in 1980. The mine has been closed since 1980 and final reclamation has taken place at the mine site. The production figure listed in the third paragraph for the McKinley mine is for 1980, and not 1981, as are the production figures listed in the fourth paragraph for the Navajo and San Juan mines, as well as the De-Na-Zin mine. The De-Na-Zin mine produces 277,145 tons in 1981. In addition, there are three other mines in the San Juan Basin which were not mentioned — one is the Kentmore mine, operated by Carbon Coal Company near Gallup — one is the Burnham mine operated by Consolidation Coal Company near Burnham on the Navajo Reservation, and the third is the Arroyo No. 1 mine, located near San Luis. There are also numerous mine properties which are permitted in

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the San Juan Basin. A list of all permitted and operating mines is available from the Mining and Minerals Division of the New Mexico Energy and Minerals Department.

In the last paragraph on page 2-7, heating values should be specified as to their type. Are they mineral-moisture-free, or as-received?

On page 2-37, under the subheading Rail Lines, second paragraph, the statement is made that coal haul trucks will be used to haul coal from the mine properties to the Star Lake Railroad. In many instances rail spurs may be constructed to the mine properties, or conveyor belts may be used to transport coal from the mine property to a rail-load-out facility. These two other alternatives should be identified and considered.

COMMENTS CONCERNING CHAPTER III:

The first paragraph under the subheading, Analysis Framework on Page 3-1 refers to the fact that the EIA analyzes the impacts of mining on entire tracts, although most of their reserves are non-Federal. The logic contained in this paragraph is not entirely clear. If the tracts will be mined regardless of the Federal Government's actions, then why are they being considered in analysis of the by-pass alternative? Therefore, at the very least, the paragraph in question should be reworded to point out that those impacts are analyzed in the by-pass alternative, and that said impacts could possibly occur regardless of what actions are taken by the Federal Government.

On page 3-3, under the subheading General, paragraph number three, the statement is made that production will begin no later than 1993, as required by the Mineral Leasing Act, except for the Hoshpah No. 1, Hoshpah No. 2, and Gallo Wash No. 2 tracts. Why are these three tracts being exempted from diligent development requirements? The EIS needs to be amended to resolve this conflict.

On page 3-4, under subheading Transportation, the statement is made that trucks will be used to transport coal to load-out facilities on the Star Lake Railroad. This statement is not realistic. In reality it is quite likely that rail spurs will be built to the Star Lake Railroad from load-out facilities at the mine. Or, conveyor belts will be used from the mine to the Star Lake Railroad, or off-road mine haulage trucks will be used. In addition, the statement the proposed Star Lake Railroad will be constructed and available for transportation of coal by 1987 is a very large assumption. In view of the past year's developments concerning the Star Lake Railroad, its construction should be considered in the EIS in stages. For example, the first leg of approximately 30 miles may be completed by 1985. The second leg up to Pueblo Pintado and back to Star Lake may be completed by 1989 or 1991 and the third leg by some other time in the 1990's.

Under the subheading Social and Economic Factors, a severance tax rate of .73 cents per ton is used. This assumption may be fairly realistic if constant 1980 dollars are used. However, if current dollars are being used, the severance tax figure must be escalated over time, since its rate

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is tied to the Consumer Price Index. In addition, the State of New Mexico levies a resource excise tax upon coal at the rate of three-quarters of one percent, and a conservation tax at the rate 0.19 percent. Gross receipts taxes are also collected on coal which is consumed in-State.

Under the subheading Impacts, No-Action Alternative, the statement is made that in-place reserves for leased Federal coal are approximately 2.2 billion tons. This needs to be clarified. Is that the coal that is currently under lease today? — or is that the coal under lease today, plus the PRLA's?

On page 3-14, under the subheading Wilderness, next the last sentence, the "was" in that sentence needs to be changed to "is".

On page 3-15, third paragraph, the abbreviation CONST. is used, although this abbreviation may have been explained earlier in the text, it would be clearer if the full name was used in this instance.

On page 3-18, second paragraph under the Social and Economic Factors subheading, there's an explanation of why 70 percent of the employees hired for employment in underground mining would be immigrants. This is a very poor assumption. Underground coal mining does not require special skills which are time consuming to learn. It is an easy task to quickly train anyone who has rudimentary knowledge of machinery to be an underground coal miner. It is our opinion that a more realistic assumption would be just the opposite, that 70 percent of the people would be local hires and 30 percent would be immigrants.

On page 3-27, second paragraph on the page, the word "frequently" should be replaced by "frequency".

On page 3-34, second paragraph under Transportation, reference is made to coal being trucked from the Black Diamond Mine to power plants near Farmington. As of this date, there has been no coal mined at the Black Diamond Mine. Only humate has been extracted from that property. In addition, coal which was moved from this area would quite likely use the transportation corridor which is now being permitted by the Bureau of Surface Mining, Mining and Minerals Division for use by San Juan Coal Company. This, as currently planned, would be a road capable of handling off-road coal haulage trucks.

On page 3-51, under the subheading Wilderness, the mitigating measures for Bisti No. 6 of using a berm and shading of night lighting do not appear to be very practical methods of mitigation.

On page 3-52, next to last paragraph, the Atchison, Topeka and Santa Fe Railroad Company should be replaced with the Star Lake Railroad Company.

On page 3-53, first paragraph, reference is made that lease holders would share cost with the State of New Mexico for major road way improvement, and that cost would be paid in proportion to tonnages hauled by truck. There are no State statutes at the present which would enable this mitigating measure to take place. Some costs, of course, would be paid by trucks through the ton-mile tax. However, that money would not be specifically

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allocated for road improvements for the roads over which coal might be hauled.

On page 3-59, under the subheading No-Action Alternative, assumptions are made that 50 percent of the coal mined by underground methods, and 15 percent that is mined by surface methods, would be unrecoverable. The 50 percent figure is not realistic. Recovery could be as high as 75 percent or even 80 percent using present underground mining technology.

On page 3-63, under the paragraph entitled "Other Alternatives", statements relating to run-off and sediment are far from clear. This section needs to be rewritten, and a further explanation of the delicate hydrologic balance in the San Juan Basin should be attempted.

RDCOA3-H-5



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
525 Camino de los Marquez
Santa Fe, New Mexico
87501

Toner Anava
51 10-34

January 10, 1983

MEMORANDUM

TO: Bruce Stockton, Duffy Ruerman
FROM: Ed Kelley, Director, Mining and Minerals Division
SUBJECT: San Juan River Regional Coal EIS.

General Comments:

The EIS, as written, is difficult to read. The differences between alternatives are not clearly stated. The use of maps to clearly show each alternative would have been useful. Maps used to show impacts in Chapter three would have also helped the reviewers understanding.

The document is also lacking in quantification and relies on generalities.

Specific Comments:

Page 1-4. The status and background of PRLA's should be expanded. The operators need to get a mine permit from the New Mexico Mining and Minerals Division (NMD) should be pointed out.

Page 1-9. Minimum Surface Owner Conflicts Alternative. "Minimum surface owner conflict" should be explained. What conflicts are expected under other alternatives and why are they absent under this alternative.

Page 1-12. Surface Mining Control & Reclamation Act of 1977 (SMCRA). This section should be expanded to describe NMD's role and authority in the administration of SMCRA. The recently signed Cooperative Agreement between the Department of the Interior and the State of New Mexico has given the State additional authority for day to day enforcement, with OSW assuming an oversight role.

Page 1-15. Reclamation Potential. The description of potential use of sandstone materials as plant growth additives or replacement of pre-existing surface materials should be expanded. As the narrative is written, the implication is that this method would only be useful in badlands. In numerous areas with limited soil conditions the use of crushed sandstone or other overburden material may be appropriate.

Bruce Stockton
Page 2
January 10, 1983

- Page 2-15. First Paragraph. The discussion of the possible use of irrigation in this arid region, as an enhancer of revegetation potential should be expanded. If widespread irrigation is proposed the effects on ground water should be traced through this document.
- Page 2-49. Water Resources, Surface Water. The description of drainages should be expanded to show that the Arroyo Chico is a sub-drainage of the Rio Puerco of the East. The Rio Puerco East should be clearly differentiated from the Rio Puerco West.
- Page 2-49. Water Resources, Surface-water quantity. The La Plata River is also classified as a perennial stream.
- Page 3-2. Assumptions and Analysis Guidelines #3. What are "support facilities".
- Page 3-7. Underground Mining. The discussion of subsidence should be expanded to recognize other possible effects beyond structural damage. The hazards include health and safety, both to people and livestock, as well as fire and disruption of both ground and surface water features.
- Page 3-7. Paleontology. This section should be expanded to recognize the Paleontological Mitigation Program. This voluntary program has received excellent support from the coal industry in New Mexico. The program was designed by MMD, the New Mexico Bureau of Mines and The Natural History Museum in consultation with industry. The goal of the program is the mitigation of adverse effects to paleontological resources from surface coal mining.
- Page 3-41. Water Resources. Do the anticipated draw downs, as described, include consideration of the use of groundwater for reclamation? The described draw downs should be verified by the State Engineers Office.
- Page 3-50. Paleontology. The previously described Paleontological Mitigation Plan should be reiterated as a mitigation method.
- Page 3-61. Surface-Water Quantity. The effect of impounding water in evaporation ponds on water rights should be described.

BRK:KFAg

MEMORANDUM

TO: Bruce Stockton, Energy and Minerals Department

FROM: Mike Cunningham and Carolyn Lindberg, Taxation and Revenue Department

SUBJECT: Review of Environmental Impact Statements

DATE: March 21, 1983

We have reviewed the Environmental Impact Statements for the New Mexico Generating Station, the San Juan River Regional Coal proposal, and the Cumulative Overview. We also have reviewed the Technical Reports associated with the Generating Station and the Cumulative Overview. Our comments will concern the population and public finance repercussions measured in these Impact Statements. For simplicity, we have concentrated on the Cumulative Overview, although many of our comments apply to the individual project analyses as well.

Population Forecast

In reviewing the Cumulative Overview, we have taken project employment projections as "givens", leaving to others the task of evaluating whether or not the timetable for coal lease and power plant development is reasonable. Any total population estimate is going to be no better than an educated guess, and for the most part, the Combined Overview appears to provide a plausible scenario, based upon project employment assumptions. However, in assessing the significance of the impact of population growth, the analyses suggest that a single year-to-year increase of 10% is a critical value (see page 3-8 of the Cumulative Overview, for example). This criterion is inappropriate for two reasons: First, it is extremely difficult to know exactly how expansion in basic industries will affect the overall employment picture in any one year, because the direct/indirect employment ratio is unlikely to be stable over time. Second, translating employment into population is a difficult problem, owing to uncertainty over the extent of in-migration. These uncertainties suggest that not too much credence should be given to estimates of year-to-year population changes and more attention should be paid to cumulative impacts. The analyses suggest cumulative impacts may be significant, given such projections as the one for Farmington, which shows a cumulative population gain of 23% or more through the mid-1990-s over the baseline projection (page 3-28 of the Cumulative Overview Technical Report). Certainly, the public finance aspects of this population bulge need to be thoroughly analysed, and it is not clear that this has been done.

SECRETARY STAFF: SOS, 088-110
ADMINISTRATIVE SERVICES DIVISION: SOS, 088-110
PROPERTY TAX DIVISION: SOS, 088-110
REVENUE DIVISION: SOS, 088-110
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DISTRICT OFFICES
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DISTRICT 5: SOS, 088-110
DISTRICT 6: SOS, 088-110
DISTRICT 7: SOS, 088-110
DISTRICT 8: SOS, 088-110
DISTRICT 9: SOS, 088-110
DISTRICT 10: SOS, 088-110

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Public Finance

Normally, the fiscal impact upon state and local governments of capital-intensive, high-wage, projects can be expected to be favorable. A major exception occurs in the case of industries subject to boom-bust cycles, which are not expected to characterize the projects under consideration. Nevertheless, a variety of circumstances can develop in which mitigating actions must be taken to avoid deterioration of public services. One such circumstance occurs, for example, when the timing of new expenditure needs and the receipt of new revenues is out of synchronization. Another problem arises when new taxable activity is located in one jurisdiction while population growth occurs in another. These problems can be eased by appropriate changes in tax law, although intervention from the state level of government may be required.

While the Cumulative Overview analysis reveals that problems of the nature cited may be foreseen (i.e., timing and location problems), the method of forecasting revenues and expenditures is not sufficiently well developed to indicate their seriousness. A fundamental problem with the analyses is the reliance on 1980-81 per capita expenditures to project future expenditure needs. The implication of procedure used is that cost increases will be proportional to population growth. This is certainly questionable in the case of capital improvements. Oddly, the "transportation" and "public service" sections review needs for major improvements to accommodate population growth, but the information pulled together in these sections does not appear to have been used in the public finance section. The failure to integrate the "public section," "transportation," and "public finance" sections may have led investigators to misleading conclusions about the impact of proposed projects on the public sector. For example, in assessing the need for additional sewage facilities in Farmington, the conclusion appears to be that the impact of expanded population on such facilities is minimal, resulting only in moving forward the need for new facilities by two years. No mention is made of the scale required, which may be larger if a maximum population of 21,470, rather than 17,160, is anticipated. And the costs associated with the alternative project scales may be very different. Ideally, too, some justification for assuming constant per capita costs for operating requirements should have been offered, though the proportional cost assumption may be more reasonable with operating costs than with capital improvements.

Usually, the assumption that tax structures remain unchanged from some base period is a reasonable one, particularly since the purpose of forecasting revenues is to determine whether adjustments in the tax structure must be made. Unfortunately, in selecting 1980-81 as a base year, a major change enacted in 1981 in the financing of public schools was overlooked. With the property tax rate on non-residential property for school operating purposes scheduled to decline from \$8.925/\$1000 to \$.50/\$1000, an analysis of school finances based on 1980-81 revenues becomes nonsensical. The fact is, the impact of increased enrollments falls upon the state budget, a point which serves to underscore a final comment. No attempt has been made to assess the impact of the proposed projects on state finances. While it generally can be supposed that capital-intensive, high-wage projects will have a positive impact on state finances, nowhere can it be determined if this impact is sufficiently favorable to allow the state to offset negative local government impacts, given the political will to do so, and mindful of

Review of Environmental Impact Statements
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the fact that, in New Mexico, the state will have to bear a large share of extra education, social service and transportation system costs, in addition to other items which elsewhere might be a responsibility of local government.

In conclusion, over-simplification of the public finance analysis has eliminated its usefulness as a guide to needed mitigating actions. Nevertheless, it must be recognized that financial needs probably can be met, given a sufficiently innovative approach.

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968 Santa Fe, New Mexico 87504-0968
(505) 984-0020
RUSSELL E. HARRISON, M.D., Director

MEMORANDUM

TO: Mark Jones, Program Support Bureau
FROM: *BB* Bill Blankenship, Air Quality Bureau
DATE: February 23, 1983
SUBJECT: Comments on the Draft Environmental Impact Statement for San Juan Regional Coal

The Air Quality Bureau has reviewed the above mentioned document and would like to make the following comments:

1. PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

(A) APPLICABILITY

On Page 2-2 of the DEIS, the statement is made that a surface coal mine is subject to PSD review if emissions exceed 250 tons per year. By way of clarification, the mine's potential emissions would include non-fugitive mine emissions and all emissions (fugitive and non-fugitive) from the coal preparation plant associated with the mine. If the potential emission rate exceeded 250 tons per year, all emissions from the mine and prep plant would consume increment and be part of the air quality analysis required by PSD regulations. Also, if the coal preparation plant includes a thermal drier, then the facility is subject to PSD review if potential emissions exceed 25 tons per year. This is because such a facility is listed among the 25 source categories for which the PSD non-fugitive is applicable.

Generally, a surface mine of the size mentioned in the document and with good control measures would not have the potential to emit 250 tons per year of particulate that could be used in the applicability determination and therefore would not undergo PSD review. However, these facilities typically require a State Air Quality permit. Control measures must be required of each mine to insure no exceedances of the State or Federal Ambient Standards for particulate will occur.

(B) INCREMENT CONSUMPTION

It is stated in the errata sheet that a sentence on Page 3-7 should be changed to read: "The potential emissions from the proposed mine are estimated to be 250 tons per year."

These dates reflect the rate used for the first complete PSD application was received for each respective control region.

The applicability of this is that any increase in emissions of TSP occurring after the baseline date for a control region will consume increment. This means that even if a proposed surface coal mine in a control region does not have to undergo PSD review, the emissions from the mine will consume increment. It follows that such emissions must be included in the dispersion modeling for increment consumption performed for any subsequent PSD application filed. In this way, emissions from the proposed mines will be accounted for in a cumulative fashion during review of larger PSD sources.

2. DISPERSION MODELING

It is recognized on Page G-5 of the DEIS that the accuracy of modeling performed was affected by a number of potential sources of error due to assumptions that had been made for a region wide analysis such as this. The Bureau concurs that the modeling performed is subject to a large degree of error and results should be interpreted cautiously for a number of reasons. The emission inventories used as input for the modeling may not reflect the actual emissions that will be present. The assumed high percent reductions in emissions due to control measures may not actually be present either unless a permit requires them to be. The model CDMQC used in the analysis should not be used in modeling for a rural area. Also, it is not clear if the 63 coal leases that would exist under the high alternative are correctly represented as the 20 hypothetical mines modeled. Also, the averaging of three sets of meteorological data, although perhaps necessary for a regional analysis, will not reflect the local atmospheric conditions that influence the ambient impact of emissions.

3. PREDICTED EXCEEDANCES OF THE TSP AMBIENT STANDARD

The New Mexico 24-hour particulate standard is predicted to be violated under each coal leasing alternative except the no action. The frequency of exceedances is not predicted. Since the modeling analysis used in the DEIS was of necessity a region-wide approach, it is difficult to interpret the reliability of the site specific predicted violations. Certainly the large grid spacing used (5km) could mean higher violations were missed.

Before an air quality permit can be issued to any of the proposed surface mines, a modeling analysis must be performed that indicates the New Mexico particulate standards will not be violated at all on the federal standards more than once. Such modeling must be approved or performed by the Bureau. The possible cumulative effect of emissions from a proposed mine interacting with existing emissions from other sources must be considered in the analysis. Since such an analysis will be site and source specific, it will differ considerably from work performed in the DEIS, and should more accurately predict the effect on air quality due to surface coal mining.



STATE OF NEW MEXICO
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LOUIE ANAYA
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ROBERT LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH E. KIRKSON
DEPUTY SECRETARY

On page 1-10, the statement is made that the Bisti to Farmington road is a "major" road. The Bisti to Farmington road is a "major" road.

On page 1-10, the statement is made that Blanding, Aztec, and Farmington are operating their wastewater treatment facilities at capacity. Actually, final inspection of a new facility at Farmington was completed in March, 1983, and a new facility at Aztec is 90% complete.

BLM Draft EIS's

The State Highway Department's concern relative to coal hauling on State Road 371, State Road 44, or US 666 is that loads do not exceed established legal limits. SR 371 from Bisti to Farmington was designed to carry 800 heavy commercial vehicles per day. Hauling legal loads at less than this rate would allow a 20 year design life for the road. Overloading will greatly reduce the useful life of the road and require premature reconstruction.

The suggestion that a 4-lane road from Bisti to Farmington on SR 371 would enhance safety has probable merit. The cost of building such a road, however, is likely to be disproportionate to the degree of safety that would be realized. Constructing the additional 2 lanes would cost approximately \$850,000.00 per mile in 1983 dollars.

W. Taylor

MEMORANDUM

March 17, 1983

To: Bruce Stockton, R & D Division,
Energy & Mineral Department

From: D. E. Gray, Chief, Water Rights Division, *DEG*
State Engineer Office

Subject: Draft San Juan River Regional Coal Environmental
Impact Statement, November 1982

1. P.2-21. Water Use

In the second paragraph it is stated that ground-water in the region is administered by the New Mexico State Engineer. The surface waters in the area of the report are also under the jurisdiction of the State Engineer but this is not reflected anywhere in the report.

2. P.A-65. Appendix A-5-State Legislation and Regulations Affecting Coal Development.

The statute citation for the State Engineer should be changed from Section "75-21" to "75-2-1". However the 1978 compilation changed Chapter "75" to "72" and the current citation is Section 72-2-1.

It is suggested that the purpose stated in the right column be changed to:

The State Engineer has general supervision of waters of the state and of the measurement, appropriation and distribution thereof.

Other statutes administered by the State Engineer that affect coal development are:

Section 69-3-6 N.M.S.A. 1978 Comp.

Any person drilling a mine lode discovery hole or mine drill hole to a depth of 10 feet more, and encounters a water body or water-bearing stratum shall plug and report to the State Engineer.

MEMORANDUM

March 17, 1983
Page 2

Section 72-12-A N.M.S.A. 1978 Comp.

Any person desiring to engage in mine dewatering in a declared underground water basin shall apply to the State Engineer for a permit.

M E M O R A N D U M

March 17, 1983

TO: FILE

FROM: Interstate Stream Commission Staff *PBM*

SUBJECT: Draft Environmental Impact Statement and Draft San Juan Basin Cumulative Overview - Proposed New Mexico Generating State and Possible Town - November 1982

The subject reports have been reviewed and the following items noted. This memorandum does not review that portion of the statement and the overview dealing with the alternative water supply from ground water sources.

IMPACT STATEMENT

Page S-7. Under the heading Proposed Water System the report states that the low flow condition is defined as 520 cubic feet per second (cfs) at Farmington. However, at page 2-30 under the heading HYDROLOGY the report states that the average discharge at Farmington during the severe drought period is about 700 cfs. The San Juan River operation study prepared by the Bureau of Reclamation's Southwest Regional Office indicates that the critical low period extends from 1952 to 1957 and that the minimum monthly flow during this period with full development would average 365 cfs. You may wish to refer to this study in reviewing the statements on pages S-7 and 2-30.

Page 2-30. Under the heading HYDROLOGY a sentence reads in part:

Estimates of the availability of water based on the institutional limitations of the Colorado River Compact, Upper Colorado River Basin

Compact and Mexican Treaty of 1944 are 647,000 ac-ft/yr (Bureau of Reclamation) ...

The sentence could imply an interpretation of the Colorado River Compact which has not been made by the Bureau of Reclamation. The Bureau has carefully avoided making such an interpretation and the Bureau's reports on the subject all contain the following disclaimer:

Nothing in this report is intended to interpret the provisions of the Colorado River Compact, the Upper Colorado River Basin Compact ...

In order to avoid making a critical interpretation of the Colorado River Compact the Bureau of Reclamation has made the conservative assumption for planning purposes that the Upper Basin states can deplete the flow of the Colorado River at Lee Ferry by 5.8 million acre feet annually. Based on that assumption the Bureau has conservatively assumed that New Mexico's share would be 647,000 acre feet annually. The report should be changed to correctly reflect the Bureau of Reclamation's position.

Page 2-30. Under the heading HYDROLOGY the last paragraph states that in operation studies of the San Juan River system the Bureau of Reclamation estimated the physical availability of supply upstream of Shiprock, New Mexico to be 705,000 acre feet per year during the critical drought period. We have not been able to substantiate the value of 705,000 acre feet per year. The Bureau's operation studies for the Gallup-Navajo municipal water supply project indicate a depletion of the San Juan River in New Mexico of about 647,000 acre feet per year including about 7100 acre feet per year depletion in Arizona and Utah for the Gallup-Navajo municipal water supply project. The number 705,000

acre feet per year does not appear correct as used in the report.

CUMULATIVE OVERVIEW

Page 1-5, fifth paragraph. It is suggested that the second sentence be rewritten as follows:

In order to supply this quantity of water to NMGS, the proposed action would involve acquiring 35,000 acre feet of contract water per year from the Navajo Reservoir supply for release upon demand to the natural channel of the San Juan River for delivery of the water to a river diversion facility downstream.

As written, the sentence could be misconstrued to indicate that direct flow rights to San Juan River water can be acquired and stored in Navajo Reservoir.

Table 3-9 on page 33 presents population projections. The projections are substantially lower than projections presented in the Definite Plan Report, Animas-La Plata Project prepared by the Bureau of Reclamation and in the Water Supply Master Plan for San Juan County prepared by Black and Veatch. On page 3-36, second paragraph a sentence reads:

Under baseline conditions Farmington would have to purchase additional water rights around 1987 to meet projected needs beyond the year 2000.

First, it is not clear why Farmington would have to buy water rights as much as 13 or more years in advance of the need for the additional water. Second, the population projections presented in the Overview indicate that Farmington may have sufficient rights to meet needs well beyond the year 2000 under reasonable estimates of per capita use. The Overview does not indicate the projected per capita use.

It is suggested that the projected water uses listed on page 3-36 be reviewed.

- 4 -

STATE OF NEW MEXICO



Department of Agriculture

Governor's Cabinet

DR. WILLIAM P. STEPHENS
Secretary

Box 3189, NMSU Campus
Las Cruces, New Mexico 88003
Phone (505) 646-3327

JOSEY ANAYA
Governor

March 7, 1983

DRAFT

Mr. Charles W. Luscher
State Director (934A)
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

This letter is to serve as official comment on the Draft Environmental Impact Statement (EIS) on Public Service Company of New Mexico's (PNM) Proposed New Mexico Generating Station and possible New Town.

The document, in our estimation, inadequately addresses both the current status of the grazing resource and the subsequent impacts of these actions on that resource. Specifically, we pose the following question: How can the Bureau adequately comply with the regulatory mandates to serve a two year notification to permittees who will lose grazing preference when permittees are not even known?

We understand the situation is complex as a result of Bureau of Indian Affairs (BIA) administration of Bureau of Land Management (BLM) allotments. Nevertheless, we recommend the BIA be contacted and the extent of grazing and resultant impacts to grazing programs be included in the Final EIS. Further, we believe all actions affecting the grazing program should follow the Section 8 consultation, coordination and cooperation procedures set forth in the Public Rangelands Improvement Act (PL-95-614) and the New Mexico BLM Rangeland Consultation Policy.

We are also concerned about the extent of water table drawdown to the well field under the alternatives chosen for evaluation because adequate water is essential to livestock grazing which is the present major use of the area. Should a need arise to develop a well field to provide the necessary water, alternatives assuring protection to necessary livestock/domestic water sources must be provided for. Specifically, existing wells should be drilled down to the water table and equipped with adequate and efficient pumps and projects with efficient energy provided to ensure no reduction in flow. The Bureau should ensure that springs which are diminished are replaced with other waterings, either new wells or a pipeline system.

Mr. Charles W. Luscher
March 7, 1983
Page 2

Pending a complete review of the grazing program and without the assurance that all actions will comply fully with Section 8 policy, we cannot adequately comment on the draft EIS. We, therefore, request additional information upon which to base our comments.

Sincerely,

William P. Stephens

w7S/mb



STATE OF NEW MEXICO
Economic Development Division
COMMERCE AND INDUSTRY DEPARTMENT

Bureau Member of Building
Industry, New Mexico (B7501)
(405) 827-6250

MEMORANDUM FOR MR. STOCKMAN

MARCH 17, 1983

SUBJECT: SAN JUAN BASIN ENVIRONMENTAL IMPROVEMENT STATEMENTS (DEIS)

FROM: MARCELO, JR. (MJC)

RE: SAN JUAN BASIN ENVIRONMENTAL IMPROVEMENT STATEMENTS (DEIS)

In carefully reviewing the areas concerning social and economic conditions for each FLS, it seems that this project is a fully ambitious. The Bureau of Land Management anticipates that 9,000 new jobs will directly result from the projects and the number of indirect jobs will double in the affected area. With the exception of the Grant/Milan area (the center of the San Juan Basin (Farmington/Loomfield) is operating at full employment. Nevertheless, the affected area should be aware of the following concerns.

The area as a whole must improve its community services. Inadequate services in local communities constitute an obstacle to economic diversification and the location of industry. Such inadequacy has a negative impact on health and culture and can even lead to outmigration. Inadequate community services are positive factors in themselves, contributing to a positive quality of life.

TO: TO: TO:

1. Extend all services in area of population and economic growth.
2. Improve water and sewer systems through cooperative planning between communities, and the development of area-wide systems in densely populated contiguous areas. This should be able to span areas of separate jurisdiction, including interstate areas.

Alex Mercurio - Bruce Stockman
Memorandum
Page 2

3. Provide for a local outgrowth, training of emergency medical manpower and mid-level health practitioners, and preventive health care including nutrition.

4. Expand training opportunities for all career employment.

Provide career guidance, counseling, health and nutrition education and employment art in local school systems.

6. Extension of infant and toddler day care services for working couples.

7. Provide financial assistance for capital improvement (especially basic facilities such as streets, storm sewer and water and sewer systems) to municipalities which will be severely impacted by high growth.

Vocational Education

In order to accommodate as many local employees as possible the affected area should expand their existing program and new program design in the following areas:

1. Transportation - auto mechanics for gasoline and diesel engines, truck driver training.
2. Medical - emergency medical technicians.
3. Construction - all building trades, with focus on electricians, plumbers, masons, steel workers, welders.
4. Airbusines - support to businesses for rebuilding construction and repair, irrigation systems, livestock care.
5. Electronics - T.V. and radio repair.
6. Energy - support to biologists.
7. Secretarial and administrative skills - all skills.
8. Engineering - entry level engineering technicians.
9. Vocational Training Program - multiple programs.

Alex Mercurio - Bruce Stockman
Memorandum
Page 1

Memorandum

Since it is evident that the Navaho will be affected more than other ethnic groups in the area and that livestock (sheep and goats) is the mainstay of their economy, efforts should be made:

1. To attract a meat and wool processing plant in the affected area. This type of operation would promote economic diversification and provide a more basic economic activity in the area.
2. Housing for larger labor force.

Cross-Cultural Sensitization

Given the historical and current social complexities of the Navaho Nation, and the need for a clear understanding of values, priorities and needs, it is essential that New Mexicans of all ethnic backgrounds be exposed in a sympathetic way to other cultures with which they have daily interaction. Perhaps the best way of approaching this extremely difficult problem would begin with education, preparing children to deal with the realities of entirely different sets of values and modes of behavior. In this regard, emphasis should probably be placed upon improved social studies programs, which at present are considered deficient in preparing children for life and work in a multi-cultural society. Programmatic responses must be made to the following comments by the New Mexico Department of Education curriculum evaluation officials in regard to two school districts, but which in fact are relevant to most school districts:

The school seems to subscribe to monocultural values, attitudes, and practices in a multi-cultural society.

...the curriculum in general but Social Studies Education in particular should encourage students to be open to the experiences - intellectually, emotionally and racially of all cultures that make up the rich fabric of the country's population. The Social Studies Education Program reflects this only minimally.

Museum of New Mexico

March 17, 1983



Mr. Bruce Stockman
R & D Division
Energy and Minerals Department
525 Camino de los Marquez
Santa Fe, NM 87501

Dear Bruce:

The Office of the State Archeologist has the following comments concerning the draft environmental impact statements (DEIS's) for the San Juan River Regional Coal Leases and the Bureau of Land Management's San Juan Basin Cumulative Overview. Rather than comment on the technical minutia of these documents, we wish to address matters of general policy in this commentary.

In 1969 the New Mexico legislature passed the Cultural Properties Act. In so doing, the legislature declared:

"...the historical and cultural heritage of the state is one of the state's most valued and important assets; that the public has an interest in the preservation of all antiquities, historic and prehistoric ruins, sites, structures, objects and similar places and things for their scientific and historical information and value..." (Sec. 18-6-2 NMSA 1978)

The act created the Cultural Properties Review Committee of which the State Archeologist is a member. The Committee has the duty "...to take such actions as are reasonable and consistent with law to identify cultural properties and to advise on the protection and preservation of those properties." (Sec. 18-6-5) Thus, the state has a vested interest in all cultural properties within the state, regardless of ownership.

Two types of adverse impacts - direct and indirect - will occur to cultural resources as a result of the proposed mines. Direct impacts involve actual damage or destruction of cultural resources through ground disturbances associated with mine operations and ancillary activities. Direct impacts are discussed in the Coal Lease DEIS and summarized in the Cumulative Overview. Indirect impacts include both intentional (vandalism) and inadvertent (ORV activities, for instance) damage and destruction of cultural resources located in the region surrounding the projects. This type of impact always results from the increased access to and familiarity with areas opened up by projects such as the proposed mines. The Cumulative Overview addresses the indirect impacts as a primary objective.

Direct Impacts

In various sections of the Coal Lease DEIS and the Overview statements are made which recognize the existence of federal, state, local, and tribal laws and regulations concerning cultural resources, but nowhere in any of the documents is there an explicit statement that the spirit and intent of these laws (Antiquities Act of 1906; National Historic Preservation Act of 1966, especially Section 106;

division of the Office of Cultural Affairs Box 2087 Santa Fe, New Mexico 87503

Letter to Stockton re. San Juan Basin DEIS's.

p. 2

National Environmental Policy Act of 1969; Archaeological and Historic Preservation Act of 1974; Archeological Resources Protection Act of 1979; Cultural Properties Act of 1969) and regulations (36 CFR 800), as well as Executive Order 11593, will be implemented for the various projects.

A second area of concern involves the absence of concise statements as to the thoroughness of the cultural resources surveys yet to be conducted. Again, comments about the limited nature of the surveys conducted to date and the need for more surveys are scattered throughout the documents. It is the policy of the Cultural Properties Review Committee and the State Archeologist that complete, state-of-the-art, on-the-ground, systematic inventory surveys must be conducted in all areas to be directly impacted by a ground disturbing project. A mitigation plan is then prepared on the basis of the survey results. This plan details the proposed mitigative actions to be taken with respect to the cultural resources to be damaged or destroyed by the project. In the case of mine projects, the State Archeologist and the State Historic Preservation Officer must approve the mitigation plan prior to its implementation. To date, the Bureau of Land Management has maintained a similar, though not identical policy. If this policy is to pertain to the Coal Lease DEIS and the Cumulative Overview, it should be so stated in both documents.

Indirect Impacts

The Cumulative Overview (p. 3-13) states that a program of monitoring will be established to deal with the problem of indirect impacts to cultural resources. While we believe that this program is commendable and should be developed, the task would be substantially aided by the implementation of a public education program. We propose that, perhaps as a stipulation placed on the lessees, a program should be developed to explain the values of cultural resources and their contributions to our understanding of man's past. This, in combination with a discussion of the cultural resource protection laws, should be presented in periodic orientations by company personnel to construction and operations employees. Active and visible corporate management concern, complete with disciplinary options, would become one of the most effective mechanisms for the preservation of cultural resources.

And finally, on page 3-13 of the Cumulative Overview one finds the statement that "Adverse effects on cultural resources could be lessened...by a dynamic process of decision making about what to save and what to give up." This statement, made in the context of indirect impacts, is ambiguous and could be argued endlessly. However, it should be pointed out that all cultural resources on federal, state, and tribal lands in New Mexico are protected by the Antiquities Act of 1906, the Archeological Resources Protection Act of 1979, the Cultural Properties Act of 1969, and Navajo Tribal regulations. It would be legally and philosophically improper for a governmental agency having jurisdictional responsibilities for any form of resources to systematically ignore or "write-off" the proper management of those resources as an official posture.

If you have any questions about these comments, please call me at 827-8941.

Sincerely,

Curtis F. Schaafsma
Curtis F. Schaafsma
State Archeologist

PLANNING DIVISION
STATE CLEARINGHOUSE
MIS-4
Review and Comment

DATE 12-9-82

TO Kate Dickes, Natural Resources Department

FROM David F. Martinez, Comprehensive Planning Bureau

RE NM 83 12 07 008 - OEIS Proposed New Mexico Generating Station/San Juan Basin
SAI NUMBER PROJECT TITLE Action Plan

Planning Division

LEAD AGENCY

Please review and comment on the above application and return to the sender by 1-28-83

1. Does this plan duplicate any programs which have similar goals and objectives to the proposed application?
-- Yes (If yes, please identify these programs)
☒ No

2. Does the proposed application conform with a comprehensive plan developed for the area in which it is located?
-- Not applicable
-- Yes
☒ No (If no, please explain in what way it is not compatible.)

3. Does the proposed application conflict with any applicable statute, order, rule, or regulation (federal, state or local)?
-- Yes (If yes, please cite the conflicting statute, order, rule or regulation.)
-- No

4. Describe any suggestions or means of improving or strengthening the proposed application.

☐ No interest in, or comment on, this project.
☐ Proposal is supported.
☐ Proposal is supported with recommendations
☐ Proposal is not supported.
☐ Further information needed, review suspended and applicant notified of request.
☒ Comments attached.

On the basis of my review, I have indicated my response and/or recommendations above.

Signature of Reviewer

Date

Approved July 1979

Secretary, DFA

Agency

STATE OF NEW MEXICO NATURAL RESOURCES DEPARTMENT



BILL ISAACS
Acting Division Director

TONEY ANAYA

Deputy Secretary

SOIL AND WATER CONSERVATION DIVISION

Valderrama Building
Santa Fe, New Mexico 87501
Phone: (505) 827-7965

March 24, 1983

Mr. David F. Martinez
Comprehensive Planning Bureau
State Planning Division, DFA
505 Don Gaspar Avenue
Santa Fe, NM 87503

Dear Mr. Martinez:

The Department of Natural Resources is responsible for overseeing the protection and utilization of renewable natural resources in New Mexico (Laws of 1977, Chapter 254, State Statutes). These resources include soil and water, wildlife, timber and forests, native plant life, and attendant outdoor recreation activities.

The Department is responding here to a request for comment on draft environmental impact statements dealing with: 1) San Juan Regional Coal Environmental Impact Statement (November 1982), 2) Public Service Company of New Mexico proposed New Mexico Generating Station and possible new town, 3) Proposed Wilderness Areas Environmental Impact Statement; BISTI, DE-NA-ZIN, AH-SHI-SLE-PAH, and 4) San Juan Cumulative Overview.

The Department has already made extensive comments dated July 26, 1982, to Mr. Andy Dims of the Bureau of Land Management (Santa Fe office) on vegetation. Certain modifications in our earlier letter are made here relative to the federally threatened species, *Sclerocactus mesae-verdae*, and are explained further on in this letter. Our comments follow.

1. San Juan Regional Coal Environmental Impact Statement.

Considering the massive environmental impact described in this document, it is not clear how the proposed action outweighs the negative effects mentioned. Some type of cost/benefit analysis should be presented with a description of the methodology utilized for review and discussion.

If such an analysis is performed, proper weight needs to be given to the great importance of the area as a recreation resource. Special consideration should be given to primitive, dispersed recreation, and the unique natural history potential of this region.

In this connection the problem of air quality requires special consideration because reduced visibility and "regional haze" detract from wilderness and recreation values. Established air quality standards are principally reflections of tolerance levels for maintenance of human health and do not satisfactorily address recreation issues. The total effect of massive removals of coal with attendant noise, air quality deterioration, and loss of visual and scenic values should be carefully weighed with respect to discouragement of tourism, quality of life of indigenous citizens, and the short term nature of such resource development on the economy of the region.

Large scale development of the coal resource will also tend to draw large, transient populations of people from elsewhere and this has historically made large demands upon social, environmental, and recreational facilities in the area. Water-based recreation areas such as Navajo Lake and Bluewater Lake State Parks will be especially affected. Costs to the county, communities, and State to maintain a safe, clean environment and adequate recreation facilities will be considerable based upon growth projections that have been suggested.

Specific impacts on the natural ecosystem in this area will be considerable. Under threatened, endangered and special interest plants (pg.2-24) it is stated that a 1982 printout from the New Mexico Department of Game and Fish shows populations of threatened and endangered plants in this county.

Figure 2-4 (pg. 2-19) is a map of the San Juan Basin with the "EIS region" outlined by a bold solid line (although there is no legend to indicate what the line represents). Since the "EIS region" includes most or all of San Juan and McKinley Counties, parts (western) of Rio Arriba and Sandoval and part of Valencia and Bernalillo Counties as well as the southern part of Montezuma, La Plata, and Archuleta Counties, Colorado, species *Pediocactus knowltonii*, *Sclerocactus mesae-verdae*, *Astragalus humillimus*, *Astragalus knightii* (sp. nov.), *Yucca* (*Pediocactus*) *papyracantha*, *Abronia bigelovii*, and many others are present. All other DEIS for this region have included a fairly complete list of threatened and endangered plants. A complete list is needed here as well.

The vegetative (Appendix C) impact study is of very coarse resolution, almost at the formation level (Conifer Type, Grassland Type, P/J Type, etc.) and does not adequately address plant communities. Taxa are listed by common or generic common name (Goosefoot, pussytoes, stickseed, etc.), which has low information content.

Reclamation usually merely attempts to provide vegetative cover consistent with post-mining land use (i.e., grazing) rather than attempting to reconstitute disrupted natural ecosystems. This report does not specify which species will be planted but only that a site specific plan will be developed for each area by the Energy and Minerals Department with DSM, HHS, and BLM participating. It does state that vegetative cover should be established in 3 years but that it could take 15-20 years to restore the land to original condition.

2. Public Service Company of New Mexico's proposed Generating Station and proposed new town.

- 2 -

Projections of population growth are always risky and carry with them potentially difficult social, economic, and environmental consequences. Whatever decisions that are made in regard to development of a "new town" should be framed within the general philosophical approach that slow-to-moderate growth allows social and economic institutions and programs the opportunity to keep pace with the demands of a growing population. This also allows time to plan for adequate recreation facilities and to identify possible adverse environmental and natural effects that might occur.

Some thought should be given to consideration of the costs of developing this project with built-in environmental protection plans rather than pitting projects costs and concerns against environmental protection.

Pollution control system alternatives are presented but no indication is given as to whether the proposed equipment and measures are the best available technology. The descriptions and justifications are compared to state and federal emission standards which are minimum standards to protect public health. Given the environmental sensitivity and existing high air quality parameters, it would be better to show how much these minimum standards would be exceeded and how such parameters as visible range and scenic quality can be protected.

The water requirements projected to support the New Mexico Generating Station, if taken entirely from the San Juan River, could directly affect Navajo Reservoir and State Park and the San Juan River sport fishery and recreational resource. While the alternative of extracting groundwater resources does not appear attractive, particularly when considered in conjunction with projected coal mine groundwater withdrawals, the proposed action (diverting 48 cfs from the San Juan River) and the resultant impact on seasonal lake levels in the Navajo Reservoir and in the Quality Stream Fishery reach of the San Juan River should be explored in more depth. Any lowering of the reservoir or increase in releases to tailwater river flow could have more profound negative impacts than suggested.

EHV transmission lines to the proposed Rio Puerco Substation near Albuquerque should be selected so as to offer the least negative impact to the Chaco Canyon NHP and other WSA's. It is not sufficient that preferred alternatives are shortest in length, most economical, or offer the least denial of stripable coal resources.

Alternate 11 or 14 might then be preferable in this regard.

The influx of construction and operational personnel and related cumulative population increases for mining and related activities of up to 10% per year, and the predicted levels of increase in recreation user days in San Juan and McKinley Counties, is of concern to "carrying capacities" of existing regional park and recreation resources. The nearby Navajo Lake State Park and Bluewater Lake State Park may be expected to be heavily impacted, as these parks are the only two regional water-based recreation areas and are presently overloaded on typical summer holiday weekends. It is doubtful that the State could fund and construct additional resources required to meet the forecasted demand within the time frame of expected impacts.

- 3 -

GEOLOGIC REVIEW AND COMMENTS ON B.L.M. DOCUMENTS RELATED TO THE SAN JUAN BASIN, NEW MEXICO

by Donald L. Wolberg, with comments from William J. Stone,
David W. Love, NMBMHR Coal Group, and
Frank E. Kottlowaki

New Mexico Bureau of Mines
and Mineral Resources
Socorro, New Mexico
March 1983

We really do not know enough about plant communities (as opposed to vegetation types at coarse resolution) or rare plant species to adequately assess the impact over the forty-year life span of this NMGS. San Juan County is rich in endemics and narrow peripherals--we discover more every time we look. *Astragalus knightii* is a new species discovered in 1982 by Paul Knight. It is a rare endemic and may be adversely affected by the transmission corridor near the Rio Puerco Substation in Sandoval County. The DEIS does not, of course, address this taxon since it was just discovered. *Penstemon parviflorus* was collected once in Colorado a hundred years ago. It is rare and the Heritage Program believes it has rediscovered it in San Juan County.

Further careful surveys for the extensive list of rare plants in this region need to be done along the suggested rights-of-way and potential site locations. Printout of potential and actual occurrences of rare plants and animal occurrences are available from the New Mexico Heritage Program but site studies are badly needed.

The effect of acid precipitation on rare plant taxa is stated to be unknown. It would be helpful if the map (2-1, San Juan air basin) showed flow patterns with corresponding concentration levels of pollutants in the air. Surely atmosphere pollutants are not uniformly distributed over the air basin.

Water drawdown in the San Juan basin will probably affect the saline lowland vegetation type over time. The impact of water withdrawal from the San Juan River and Navajo Lake will be detrimental to cottonwoods (*Populus*). Without cottonwood regeneration there will eventually be a closed-canopy salt cedar community.

3. Bisti, De-Na-Zin, and Ah-Shi-Sle-Pak Wilderness Study Areas.

In view of the importance to recreation-based economy of all three of these areas as wilderness, it is the

4. San Juan Cumulative Overview.

Since this document is a summary of the preceding three DEIS reports, the Department considers its responses to points 1, 2 and 3 to adequately address the cumulative overview.

Sincerely,

Bill Isaacs, Acting Director
Soil and Water Conservation Division

JP

encl.

- 4 -

Introduction

This report considering various U. S. Bureau of Land Management documents related to the San Juan Basin is submitted by the New Mexico Bureau of Mines and Mineral Resources (NMBMHR). From the geologic perspective, we find the BLM documents lacking in numerous aspects. We note the lack of substantive input by the State of New Mexico and its agencies in determining the content, direction and conclusions of the BLM documents. The geology represented in these documents is basically naive. We suggest that New Mexico would have been better served if responsibility for various aspects of these documents had been delegated to the State with BLM serving as coordinator. It is our view that actions directly impacting the State should be addressed by the State and its agencies.

Our comments apply to all the BLM documents except where specific comments are addressed to a part or parts of a specific document. We have attempted to address issues related to geology directly or indirectly.

The San Juan Basin of northwestern New Mexico and southwestern Colorado is an asymmetric structural basin or depression that contains a sequence of sedimentary rocks that is as much as 15,000 feet thick. The rock sequence of the San Juan Basin is not continuous; gaps in the record are present (Appendix 1). The exposed rocks of the San Juan Basin affected by the management and development programs described in the various BLM documents consist of a sequence of rocks deposited as the Late Cretaceous seaway advanced and withdrew from the Western Interior. This uppermost part of the rock sequence is more than 6,000 feet thick and includes strata of Late Cretaceous, Paleocene and Eocene age and is mantled by Quaternary sediments. Gaps exist in this part of the rock record as well. A part of the Late Cretaceous, rocks of the Fruitland Formation, consisting of fine-grained, light-gray sandstone, brownish siltstones, shales, dark carbonaceous shales and coal beds, contain most of New Mexico's coal resources. The average thickness of the Fruitland Formation is about 300 to 350 feet. The Fruitland Formation overlies the Pictured Cliffs Sandstone and underlies the Kirtland Shale. In many areas where the Fruitland Formation is exposed, characteristic badland topography is well developed. One such badlands region, the Bisti badlands, has become the center of debate and controversy.

Badlands

The Bisti badlands, around and mostly to the east of the old Bisti Trading Post (northwest corner of sec. 32, T. 24 N., R. 13 W.), expose broad outcrops of the Fruitland Formation, as well as the underlying Pictured Cliffs Sandstone and overlying Kirtland Formation. The badlands are typical of hundreds of square miles of badlands developed on the Cretaceous rock units of the San Juan Basin and occupy about 75 sq mi near the ruins of the burned-out trading post. The resistant Pictured Cliffs Sandstone and the Ojo Alamo Sandstone that overlies the Kirtland Formation form, respectively, lower and upper stratigraphic boundaries to the badlands development. The bare-rock exposures are concealed to the north and south, as well as along interstream divides, by eolian sand that blankets much of the surrounding region.

Hunter's Wash, Willow Wash, and Alamo Wash cut through the badlands and serve as the base level for erosion; additionally, they are being choked by the tremendous amount of sediment derived from the badlands. This naturally derived sediment is carried downstream to the Rio Chaco and then to the San Juan River. Weathering of the siltstones and the claystones of the Fruitland and Kirtland Formations also provide fine-grained particles for the region's dust storms; thus, the Bisti badlands, along with many of the numerous badlands in the San Juan Basin, are a major source of natural pollution of the streams and atmosphere.

The Bisti area is traversed on its west side by NM-371, the main road from Farmington to Crownpoint, and is relatively heavily traveled. Since similar badlands are common throughout the San Juan Basin, much of the recent interest in the Bisti badlands is possibly the result of the relative ease of access as much as the scenic interest.

The Bisti badlands are by no means the only example of badlands development in the San Juan Basin. During the recent hearings before the New Mexico Coal Surface Mining Commission, Edward C. Beaumont, Consulting Geologist, presented a map depicting the principal badlands of the San Juan Basin (Appendix II). This map shows three main groups of badlands developed on (a) younger Tertiary rocks of the San Jose, Nacimiento and Ojo Alamo Formations (b) Kirtland, Fruitland and Pictured Cliffs badlands and (c) badlands developed on older Cretaceous rocks of the Lewis Shale and Mesaverde. Although some coal development will affect the Mesaverde rocks, most of development will be in the Fruitland; the San Jose, Nacimiento and Ojo Alamo will not be directly impacted by coal development. As Appendix II indicates, enormous areas of badlands are present in the San Juan Basin. In point of fact, comparatively minor expanses of even the Fruitland Formation will be impacted by coal development. In addition, badlands in New Mexico are by no means limited to the San Juan Basin. Expansive badlands areas are present in many other areas of the State, e.g., the Santa Fe badlands along the Rio Grande Valley from the Rio Grande Gorge south to El Paso.

The prospects for major coal development is largely a Fruitland Formation phenomenon. Discussion of landform impacts should be centered on the Fruitland dominated badlands. Similarly, not all development of Fruitland coal will involve badlands disturbance. In many areas, the Fruitland Formation and economically recoverable coal is veneered by a covering of relatively recent sediments and the formation is not exposed.

Badlands in the San Juan Basin are transient phenomena. Present badland topography may not be particularly old geologically (on the order of only 5,000 years) and badlands are being exposed and covered by recent sediments in different portions of the basin.

Very little thought has been given to creative solutions of dealing with surface mined areas in other than a conventional manner. Reclamation ideas generated from study and experience in other portions of the country may not be applicable to prevailing conditions in New Mexico. It may well be possible to reconstitute new badlands areas after completion of mining activities cease and utilize

Fossils also are used as educational resources in secondary schools and universities. They are popular exhibits in museums, such as the University of New Mexico's geology museum, the geology museum at the New Mexico Bureau of Mines and Mineral Resources and will soon be highlighted at the New Mexico Museum of Natural History.

Unlike archaeological remains, which generally consist of individual sites or limited regional localities, paleontological remains are generally distributed through rock strata. The only limitations upon the distribution of individual paleontological components, the various types of fossils, are the environments represented and a vertical component that may be taken to represent time. By far the great majority of fossils consists of ancient life forms whose individual place in the scheme of things is barely intelligible by any but a narrow, hyperspecialized audience tutored in the complexities of foraminiferal classification, ammonite shell morphology, or cusp morphology of primitive mammalian teeth.

Paleontology is the study of fossil organisms and, as such, is obviously dependent upon the collection of specimens to be studied. Fossils that remain in the ground generally are of little value to paleontologists and generally do not enhance our knowledge of ancient life. Many fossils are destroyed by erosion and never get into the hands of a paleontologist. The rate of destruction of fossil material is dependent upon a wide variety of environmental factors, but it is inexorable. Under normal circumstances, given the choice of allowing significant fossil material to be destroyed by natural processes or retrieved for future study, collection would be favored by most individuals.

As large volumes of fossil-bearing sediments are alternately exposed and removed, expanded development of the state's coal resources will also vastly expend the potential availability of fossil specimens from those rock units that will be affected by mining operations.

Obviously, if mining activities destroy all of the fossils present, the impact is severe; fossils from that area are lost. Is the impact as severe if the fossils are duplicated or represented in collections already available or if the same strata with the same fossil content are present elsewhere in areas with no mining? Is it reasonable to forestall mining on the basis that important fossils may be destroyed by mining operations if they are present? Paleontological materials, however, are strata-bound and occur in rock units that frequently extend many thousands of square miles. It is absurd to think that every fossil can be removed or even found, especially when one remembers that most fossils are barely visible to the unaided eye or are truly microscopic in size.

In an effort to address the problems associated with the impacts of coal development on paleontology in the San Juan Basin, the NMBMR organized and chaired a conference workshop in Farmington, New Mexico, April 8-11, 1981. A report of this effort is included in Appendix IV.

mined areas for different purposes. The document "Creating Land for Tomorrow," published by the American Society of Landscape Architects, should be read. At least some of the alternative solutions proposed in this document may be applicable to New Mexico. A copy of the title page is included in Appendix III.

Paleontology

Apart from impacts to badland topography, much debate has centered on the impacts of coal mining to paleontology. New Mexico's paleontological wealth is abundant and diverse; contained within the rocks of the state are many fossils remains that span hundreds of millions of years and help to document the history of life forms on this planet. New Mexico's paleontology is not limited to the Fruitland Formation or the San Juan Basin. Yet much discussion has centered on fossils that will be disturbed by the exploitation of the Fruitland's coal resources.

Much of this coal lies within public lands managed by the U. S. Bureau of Land Management. Barring unforeseen developments, it is apparent that paleontological mitigation will be required of companies seeking to mine this coal. The BLM, acting under the Federal Land Policy and Management Act of 1976, holds that:

The public lands be managed in a manner that will protect the quality of scientific, . . . and archaeological values . . . Section 102(a)(8)

The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and values . . . Section 201(a)

On the surface, this new cognizance of paleontological values may appear to be a boon to the science; however, the issues involved and the subject matter itself are of greater complexity than might be apparent. The implications of Section 102(a)(8) are numerous: for example, paleontology obviously is not mentioned. Equally obvious is the fact that paleontology cannot be included within archaeology and thus must be a part of "scientific values."

Paleontology and fossils are included by the BLM in the section of the Federal Land Policy and Management Act of 1976 that treats scientific values. What are the values or uses of fossils? In general, they may be listed as follows:

1) Fossils make up the record of ancient life forms, and they may be interpreted to demonstrate the course of evolution during geologic time.

2) Fossils are valuable as indicators for the correlation, or matching, of sedimentary rock layers and are used as aids in determining geologic age; this may be of particular importance if the strata concerned contain coal seams, metallic orebodies, petroleum, or other mineral resources.

3) Fossils provide evidence of ancient environments (such as shallow or deep seas, swamps, deserts, and floodplains); they may indicate ancient climatic conditions and changing geographic relationships or patterns during geologic history.

As an outgrowth of the Farmington workshop conference and in response to difficulties involving "split-estates," an effort was initiated by Charles Roybal (EMD) and Donald Wolberg (NMBMR) to develop a coherent set of procedures to deal with coal development and paleontology on New Mexico state lands. This culminated in the only set of procedures: "The New Mexico Paleontology Plan" available anywhere in the United States. A copy of this plan and EMD administration procedures is included in Appendix V.

It became apparent that the issues addressed in New Mexico had much broader significance for the Western Interior of the United States. For example, economically valuable coals of the Williston, Powder River Basin and elsewhere are younger than our coals but are also associated with significant fossil occurrences. Thus, it became apparent that a more general set of solutions should be arrived at applicable to coal development anywhere in the Western Interior and that our New Mexico experience would serve as a valuable example for a more encompassing plan. Thus, the NMBMR & EMD participated in a conference held at the Los Angeles County Museum. The goals of this conference was the generation of a document for presentation to the National Academy of Science, in effect an invitation to the Academy to address the mining/paleontology problem and develop a national plan for implementation. A copy of this document is included in Appendix VI.

Comments on Geology & Paleontology of BLM Documents

The various BLM documents considered:

1. Draft San Juan River Regional Coal Environmental Impact Statement (November, 1982)
2. Draft Proposed Wilderness Areas Environmental Impact Statement (1982)
- 3a. Draft Environmental Assessment for Coal Preference Right Leasing New Mexico
- b. Final Environmental Assessment for Coal Preference Right Leasing New Mexico (1981)
4. Draft Environmental Impact Statement on Public Service Company of New Mexico's New Mexico Generating Station and Possible New Town
5. Draft San Juan Basin Cumulative Overview (November, 1982).

These display a generally feeble understanding of the geology and paleontology of the areas considered and paleontological field methodology. In the San Juan River Regional Coal EIS, figure 2-3 purports to be a "general" or "generalized" "stratigraphic" or "composite" section of the EIS region (not defined beyond "Southern" and "Northern" areas -- not defined with nebulous age assignments (frequently incorrect) and vague fossil occurrences (frequently incorrect)). This figure is shown in Appendix VII. Compare Figure 2-3 of the BLM document to Appendix I of this report. Figure 2-3 of the BLM document is simply not accurate or adequate. The uses of the unconformity symbol, lithic symbols,

thickness scale, terms such as "alluvium and basalt" simply do not correspond to reality. The lowermost unit, the Chinle Formation, is Triassic in age, not Jurassic and is followed by other rock units seen in our Appendix 1 but not shown in Figure 2-3 of the BLM document. A major unconformity clearly separates the Chinle Triassic rocks from the overlying Jurassic units. This unconformity, representing many millions of years, is not even shown in the BLM Figure 2-3. Note also the total disregard for actual thicknesses of rock units in the BLM document as compared to Appendix 1. The BLM implied thicknesses do not correspond to reality.

Quaternary fossils have been found (mammoth tusk by Robertson). Ongoing studies by Gillespie, and D. Love and D. Wolberg, have pointed out that possible Early Neogene equivalents may be present in the San Juan Basin. Similarly, mammals are not known from the Ojo Alamo Sandstone. The reported occurrences of mammals in the Ojo Alamo almost certainly were from the Nacimiento. The age of the Ojo Alamo is disputed and may be Cretaceous. The Galisteo and Zia Sand have nothing to do with most of the units included in the chart; one might just as easily have included rocks from the Truth or Consequences area.

The text shows the Mancos to be 2,300 feet thick but Figure 2-3 shows the Mancos to be less than half this thickness. The figure is also misleading in terms of relative importance of coal resources. Even though coal is not restricted to the Fruitland Formation alone, most of New Mexico's coal reserves are contained in the Fruitland.

The text titled "Northern Area" on page 2-15 is basically gibberish and without meaning. The Fruitland/Kirtland represent continental rocks and have nothing to do with off-shore marine and shoreline deposits with marine invertebrate faunas.

The closing paragraph commenting on the transition from Cretaceous dinosaur dominated faunas to Tertiary mammal dominated faunas is similarly nonsense. The Cretaceous fossil record in New Mexico ends with the Kirtland Formation. The Kirtland is overlain by the Ojo Alamo Sandstone and no *in situ* vertebrate fossils have been documented from the Ojo Alamo. The Ojo Alamo in turn overlies the Nacimiento Formation. The Nacimiento contains Early Paleocene mammals and no dinosaurs. However, recent studies in Montana and elsewhere indicate that the Nacimiento does not contain earliest Paleocene fossils and a hiatus exists between the lowest occurrence of mammals in the Nacimiento and the Kirtland with the enigmatic vertebrate-free Ojo Alamo in between. In addition, some experts have maintained that a major hiatus or gap is present at the top of the Kirtland and that the uppermost Kirtland actually is much older than the latest Cretaceous as known in Montana, Wyoming and elsewhere.

In any event, there is no economical coal in the Kirtland, Ojo Alamo, or Nacimiento and the Fruitland rocks, with coal, have nothing to do with the question of why the dinosaurs became extinct; Fruitland rocks are simply too old and too low to bear on this problem. Similarly, most of the rock units named in BLM Figure 2-3 have no relationship to coal mining at all.

The BLM document: Draft San Juan Basin Cumulative Overview repeats many of the errors of the documents noted above. Table 2-2, p. 2-11, (Appendix XI) purports to be a "Summary of Geology and Paleontology of Study Area." However, this table bears little relation to Map 2-3, (Appendix XII) "Generalized Map of Bedrock in San Juan Basin." Firstly, Table 2-2 contains units not shown on Map 2-3. Map 2-3 is not a complete map of the San Juan Basin and is basically a reproduced portion of the New Mexico Geologic Map. Table 2-2 is upside down! Older units are at the top, younger units at the bottom. The Nacimiento Formation is Early to Middle Paleocene not "Early to Middle Paleozoic." No turtles, archosaurs or mammals are known from the Ojo Alamo Sandstone. No mammals are known from the Jurassic Morrison Formation of New Mexico. The San Jose Formation is shown on Map 2-3 but is not in Table 2-2. The fossils listed, when accurately reported are not known from throughout the extent of the rock units but are more frequently very localized in occurrence. Thus, "snakes" in the Fruitland Formation should actually read, "isolated snake vertebrate from one locality."

The text on p. 2-9 seriously mistakes reality. The rocks contributing to the 14,000-foot thickness of the San Juan Basin and deposited over the last 600 million years have not been shown on Map 2-3. Similarly, "80-foot-long dinosaurs," have not been collected in the San Juan Basin. Rather, a few isolated bontosaurs vertebrae and other bone fragments have been collected from Jurassic rocks near San Ysidro — these have nothing to do with the paleontologic impacts of mining Fruitland coal.

A quotation from a recent collection of paleontologic papers is utilized on page 2-9. The fact that this is a quotation from a published work does not establish the accuracy of the quotation or its relevance to the issue at hand. For example, although it is true that fossils from the San Juan Basin was the basis for the establishment of three early Tertiary land mammal ages, the Puercan, Torrejonian and Tiffanian (actually more the result of historic circumstance), it is inaccurate to relate this fact to coal development. The Puercan and Torrejonian represent mammalian faunas that are contained in the Nacimiento Formation — they have nothing to do with Fruitland coal development and in fact rocks with these faunas are probably 1,000 feet or more above the Fruitland. The Tiffanian is not represented in New Mexico at all and in point of fact was described from Colorado! It is now known, as pointed out above, that the Puercan is not the earliest, post-dinosaur, mammal age. Older Paleocene faunas, "Prepuercan" are known from more complete stratigraphic sections in Montana and elsewhere. Similarly, a marked hiatus exists in New Mexico above Torrejonian levels. The Tiffanian (which isn't even the latest Paleocene) is absent in New Mexico as is the latest Paleocene, the lower part of the Clarkforkian, also known elsewhere. The San Jose Formation of New Mexico is not the earliest Eocene and a marked gap in New Mexico rocks exist between faunas of the Nacimiento and San Jose. Similarly, latest Cretaceous dinosaurs are absent from New Mexico but are preserved in the rocks of Montana, Wyoming and elsewhere. In point of fact, these stratigraphic levels have nothing to do with coal mining activities in the Fruitland Formation, anyway. Again, the quotation cited in matters of paleontologic fact, the act of publication does not bestow accuracy.

The BLM document: Proposed Wilderness Area Environmental Impact Statement is much more "restrained" but relies heavily on a BLM contracted paleontological inventory. The merits and problems related to this study have been discussed at great length, but BLM continues to rely upon this effort as a major source of its data. There are doubts about the applicability of the study for determinations of management of public lands. We append below (Appendix VIII) NMBMHR comments regarding this document and a copy of a BLM-contracted appraisal of this document by an ad-hoc committee of the Paleontological Society (Appendix IX). For various reasons BLM did not accept the Paleontological Society report.

Furthermore, the significance criteria, explained in Appendix C of the BLM document, have not been accepted by the paleontological community. In general, it may be noted that the Bisti USA has been heavily "picked over" for fossil remains and wilderness status will not seriously impact paleontological investigations. It should be noted (and indeed is noted on pp. 3-10-3-11 of the draft wilderness document) that the "excavation and collection of fossils would be allowed in wilderness areas on a case-by-case basis only if such actions were needed to save fossils from destruction, and when such recovery would not unnecessarily degrade wilderness characteristics." Thus wilderness designation would in fact hamper recovery of paleontologic materials.

From the paleontologic perspective, the most productive fossil beds lie within Ah-shi-sle-pah Wash, an area proposed for removal from wilderness consideration. Paleontologically, this proposal is very welcome since active paleontological excavation of varying scale will be possible in Ah-shi-sle-pah, activities which will not be possible in the other two proposed wilderness areas. If Bisti and De-na-zin are designated wilderness, they will essentially become paleontological non-entities. Fossils in the ground, especially if they must remain in the ground, do little to advance paleontologic understanding.

A review of the Draft Environmental Assessment for Coal Preference Right Leasing in New Mexico generates similar criticisms noted above: BLM reliance on a contracted document, the evaluation of which has been a matter of debate. Mention of 1,137 known fossil occurrences is not really relevant. Depending on the criteria employed, this number could have been twice as large or one-half as large. Mention of subsurface (not visible) occurrences is basically meaningless. A cooperative study by BLM and the NMBMHR of PRLAS NM-3752, 3753, 3835, and 3919 is noted. This cooperative study of the area known as the "fossil forest" is still ongoing although virtually the entire BLM paleontology staff involved in the project are no longer at BLM. In addition, BLM wished to impose "Area of Critical Environmental Concern" (ACEC) status on the area in spite of our evaluation that such a designation was unnecessary. We append below our reaction to BLM regarding this designation (Appendix X).

The BLM document: Draft EIS, NMGS (November, 1982) is difficult to review paleontologically. The criteria utilized for determining impacts are not explained. It seems likely that these criteria centered about paleontological potential as determined from rock units present in or crossed by the NMGS site and ancillary developments, respectively. It is not likely that the concerns expressed or evaluations represent actually demonstrated significant fossil occurrences.

In order to more accurately evaluate the paleontological sections of the NMGS draft EIS, the Woodward-Clyde draft technical report dealing with paleontology (February, 1982) was reviewed. Much of the coherence of the draft technical report is lost in the draft EIS; the paleontological commentary of the EIS is badly fragmented, and the sense of the technical report is lost in the EIS.

Of some interest is the fact that Table 1, "Summary of Geology and Paleontology of Study Area" of the NMGS draft technical report Appendix XIII is actually the same as Table 2-2 of the BLM Draft San Juan Basin Cumulative Overview, including the errors that appear in the cumulative overview! Not only did these errors creep into the technical report but they were embodied in total in the SJB Cumulative Overview. This demonstrates a severe breakdown of critical expertise on the part of both BLM and Woodward-Clyde. No fossils and hardly any exposures are reported from the NMGS townsite and after reviewing the technical report it seems likely that projected paleontological impacts actually reflect nothing more than possible occurrences simply because of the rocks that are in the area of the NMGS or that will be traversed by ancillary developments; or that have been reported from elsewhere in the San Juan Basin. There is no documentation that any actual fossil occurrences will actually be impacted.

Coal and Hydrology

The coal resources of the San Juan Basin have been examined in detail in a number of publications. The most significant of these include NMBMHR, Memoir 25, "Stripable Low-Sulfur Coal Resources of the San Juan Basin in New Mexico and Colorado," (Shoemaker, Beaumont and Kottlovski, 1971); and USGS Professional Paper 676, "Geology and Fuel Resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado," (Fassett and Hinds, 1971). These documents together with a series of preliminary geologic maps published by the United States Geological Survey, which basically follow the Fruitland outcrop belt, comprise the core of relevant data related to San Juan Basin coal deposits at a sufficiently detailed level to have actual site relevance. In addition unpublished but compiled coal data is contained in the files of the Minerals Management Service, the U.S.G.S. Coal Branch and the NMBMHR. The most significant and technically adequate source of data related to geologic mapping, coal reserves, direct and indirect geo-environmental impacts of mining, paleontologic and hydrologic impacts at the state level reside in the NMBMHR.

To a great extent BLM and its contractors failed to utilize available geologic data and interpretive resources of state agencies in general and the NMRHMR in particular. This lack of communication and utilization of available state agency expertise resulted in inadequacies of the submitted documents. For example, Dr. William J. Stone of the NMRHMR has reviewed the hydrologic portions of the NMGS draft EIS. He finds that:

"The hydrologic work cannot be evaluated because nothing is given on the methods, data, or assumptions used. Map 3-2 (p. 3-29) is clearly based on a model but only a single vague reference to "model" is made that I could find (p. 28, lower right column).

Even without further information I would have two criticisms of Map 3-2:

1. The drawdown contours are incredibly uniform.
 - a) Is aquifer that uniform?
 - b) Aren't there any other withdrawals during this period (see Lyford and others, 1980)?
 - c) What year do the contours represent?
2. It's difficult to evaluate the contours but the values seem excessive based on our work (Lyford and others, 1980).
 - a) For a withdrawal from uranium mines of 2,000,000 ac-ft we predict a maximum drawdown at Farmington of 100' by the year 2000.
 - b) For a withdrawal of 15,000 ac-ft to year 2038 (if I read map right), they get 200' drawdown.

They seem to cite most pertinent references in the back but none in text. One that was overlooked might be useful:

Shomaker, J. W., and Stone, W. J., 1976, Availability of ground water for coal development in San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Circular 154, p. 43-48."

Recent documents, "Evaluation and Comment on the New Mexico Coal Market Study," conducted by the University of New Mexico Bureau of Business and Economic Research (February 21, 1983) and "Final Report Quantitative Assessment of Actual Transactions" prepared for the New Mexico Energy Research and Development Institute (December, 1982) by Temple, Barker and Sloane, Inc., represent interesting although frequently conflicting analyses. For example, the Temple, Barker, Sloan document characterizes San Juan Basin coal quality as, "... relatively poor, with high ash content, relatively high moisture, and low to moderate Btu content, ... 8,300 - 11,000 Btu per pound," p. 11-2. Fassett and Hinds (1971), in their report on coal resources, show that Fruitland coal is low in sulfur and low in moisture; with Btu values generally between 9,000 and 13,000.

In any event, it is apparent from these documents that the full development of New Mexico's coal resources and coal markets requires assurances of adequate transportation. Slurry pipelines do not seem realistic given the difficulties of obtaining adequate water supplies of adequate quality. Rail transport appears to be the most logical means of coal transport.

The markets forecast in these documents may be overly conservative. Given adequate transportation facilities and supplies of coal delivered at a competitive price and an aggressive marketing program, there is really no substantial reason why New Mexico coal could not compete with Powder River, Willistoo and Green River Basin coal. Penetration of potential markets is largely dependent upon transport, supply and price. Wyoming coal in 1978 had achieved remarkable market penetration as can be seen from the map reproduced from the document, "Wyoming Coal Production and Summary of Coal Contracts," Appendix XIV. In addition, projections of Wyoming penetration for 1990 rely on aggressive marketing program (Appendix XV). There is no reason to restrict the opportunities for the marketability of New Mexico coal.

Forecasting of estimated production is not very accurate. As an example in the nonuniformity of production/consumption forecasts, we include: (a) a graph of actual vs estimated production of Wyoming coal (Appendix XVI); (b) a forecast from the journal "Coal Mining and Processing" (January 1983, Appendix XVII) and (c) a forecast from Coal Age (February, 1983, Appendix XVIII). The disparities are obvious.

Some facts seem certain; if coal isn't mined, it can't be sold and if mined coal can't be transported, market opportunities are severely restricted.

Some discussion has centered on supposedly low lease prices of federal coal. A low initial lease price does not adequately reflect actual revenue generation for the state. Given the basically undeveloped nature of the coal industry in New Mexico and the great potential for development of a vigorous industry, a low lease price might actually encourage more development and greater revenues to the state than a high lease price. It seems likely that with the predictable lowering of oil prices, the decrease in gas revenues, the malaise of the uranium, copper and potash industries, New Mexico will face severe economic pressures. The encouragement of an aggressive and active coal industry would help to alleviate the economic burden which confronts the state.



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April 6, 1983

Mr. Charles Luscher
State Director
Bureau of Land Management
New Mexico State Office
Santa Fe, New Mexico

Dear Sir:

Enclosed are the specific policy recommendations and comments of the Attorney General of the State of New Mexico on the Draft Environmental Impact Statements for New Mexico Generating Station (NMGS) and the San Juan River Regional Coal Leasing Program. If you or your staff have any questions regarding the Attorney General's position please contact:

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Sincerely,

Paul G. Bardocke

PAUL BARDOCKE
Attorney General

PB/es

Enclosures

COMMENTS OF THE ATTORNEY GENERAL OF THE STATE OF NEW MEXICO
ON THE BUREAU OF LAND MANAGEMENT'S DRAFT
ENVIRONMENTAL IMPACT STATEMENT ON THE PUBLIC
SERVICE COMPANY OF NEW MEXICO'S PROPOSED
NEW MEXICO GENERATING STATION

The Attorney General of the State of New Mexico makes the following recommendations and requests for action by BLM:

1. Because of the numerous and fundamental flaws in the DEIS and because the proposed project cannot be justified at the present time nor in the near future, the public interest of the State requires that the applications be denied without prejudice to PNM refiling at a later date. This is the appropriate "No Action" alternative. BLM's characterization of the no action alternative is inappropriate. (See DEIS at p.1-30). BLM should also take no action in regard to the related Ute Mountain Land Exchange.

2. If the AG's "No Action" alternative is rejected, the AG urges the adoption of the less preferred delay alternative. [Id.] This alternative would delay the required federal actions until a final New Mexico Public Service Commission (NMPS) determination as to the need for the project or until the lead-time for the project is a reasonable one which would allow for an adequate determination of need. The AG's position is that a reasonable lead-time is 5 years. Based on this fact and present PNM estimates, this would require a minimum delay of seven years.

3. If the delay alternative is rejected, the AG urges the adoption of the following least preferred alternative: the conditioning of all required BLM permits on PNM's obtaining a Certificate of Public Convenience

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and Necessity for NMGS from the NMPSG within five years of the date of issuance of said BLM permits.

4. If either of the less preferred alternatives are adopted BLM must issue a supplemental, draft environmental impact statement. The draft EIS is fatally flawed and any decision other than no-action cannot be supported unless such a supplemental, draft EIS is issued. The Supplemental DEIS must:

- a) account for the major changed circumstances which the AG has identified;
- b) cure the defects in the analyses of alternatives to the project and siting alternatives which have been identified;
- c) base its analysis of need on an independent load forecast or, as the less preferred alternative, on PNM's official load forecasts as presented to the NMPSG; and
- d) address the connected/cumulative, impacts/actions of the other proposed San Juan basin actions. (See Attorney General's Comments on the San Juan Basin Action Plan, March 24, 1981 and on the Draft Environmental Assessments, July 17, 1981).

5. If either of the less preferred alternatives are adopted BLM must also institute an effective, land-use planning policy. During any period of delay in BLM's acting on this proposal, land-use planning for and federal actions in the San Juan Basin must continue as if no federal action as to the NMGS proposal was pending. The AG clearly states his desire that no action should be withheld or postponed on the grounds that the NMGS

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project is merely delayed and may be successful at a later time. Therefore, a land-use planning policy must be put in place by BLM to ensure that federal actions in the San Juan Basin will continue unhindered during any period of delay for the NMGS project.

The attached comments of the Attorney General's consultant, Bruce Poster, conclude that the DEIS is seriously flawed and does not justify the need for Unit 1 in 1990. The insufficiency of the DEIS is clear. The DEIS itself only addresses the issue of need in four pages, 1-1 to 1-4. While it is true that the ultimate authority as to the need for the plant's construction is the NMPSG, the BLM cannot refuse to meaningfully address this issue. BLM is the ultimate authority as to the federal actions here in question and it cannot make a reasoned decision or rationally choose among alternatives unless the question of need has been adequately addressed.

Legally adequate environmental analysis requires complete and current data. Speculative and conjectural statements are insufficient to justify the proposed federal actions. If there is no need for the project or the need is far in the future the proposal is not ripe for decision-making purposes. The DEIS is not based on complete or current data, is based on speculation and conjecture, and is insufficient to justify the proposed federal actions.

The DEIS does not recognize the major changed circumstance of the postponement of in-service dates for NMGS Unit 1 from 1990 to 1995, at the earliest. The proposed project is now a minimum 12 years away; this is not

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a realistic lead time. Demand for electricity in 1995 is too uncertain to justify major federal actions now. Possible options available in 1995 are too broad to be foreclosed at the present time by a premature commitment of resources. A data base which is based on a forecast of events over 12 years away is inadequate to support reasoned decision-making or to meet the NEPA requirements for full public disclosure. The commitment of public resources to a project so far in the future clearly is a premature action.

No action or a delay will allow the decision-maker to make his decision based upon data that is more closely related to the action and which is not speculative and conjectural. It allows the public more full and realistic information upon which to comment.

No action or delay prevents the irretrievable commitment of resources which would prevent other uses which may not be irretrievable and/or may be more beneficial. One way this occurs is by the inflating of the value of water rights due to a decrease in a finite supply. Such a decision also prevents costs being incurred in relation to pre-construction expenses for a project that may never be completed or needed. This is a grave risk for New Mexico ratepayers.

The decision to proceed with the project now will prejudice the many other regulatory decisions to be made by other agencies. This is especially true in regard to the PSC and pre-construction expenses and also in regards to its power to issue a certificate of public convenience and necessity. It would also prejudice alternative energy sources such as conservation and solar. A delay or no action would be an incentive for the

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use of such power resources and for a least cost solution to any future need for power.

The analyses of alternatives to the project and of site alternatives are also deficient, as shown in Mr. Poster's attached comments. The AG is concerned that BLM is relying on PNM's consultant to determine site alternatives and submits that BLM's site selection should rely on independent data. These factors also support the no action or delay alternatives.

Respectfully submitted,


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COMMENTS OF THE NEW MEXICO PUBLIC SERVICE COMMISSION
ON THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT
ON PUBLIC SERVICE COMPANY OF NEW MEXICO'S
PROPOSED NEW MEXICO GENERATING STATION
AND POSSIBLE NEW TOWN

The following comments are directed to the technical accuracy of, and the reasonableness of the assumptions used in, the Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town (draft EIS) as it relates to the purpose and need for the New Mexico Generating Station (NMGS).

The regulations issued by the Council on Environmental Quality implementing the National Environmental Policy Act state: "The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action." 40 C.F.R. Section 1502.13. Presumably, this statement of need should be accurately reflective of the need perceived to be addressed at the time the decision is being made. The need addressed in the draft EIS is very different from the current assessment of need demonstrated by public documents currently on file with the NMPSC, prepared by PNM or its agents. PNM's projections in its 1982 Load Growth Document filed with the NMPSC have been revised downward and now show the need for NMGS Unit One in 1993 rather than in 1990. Since PNM's load growth projections have historically been on the high side and required constant downward revisions, it is possible that PNM's 1982 "low growth" scenario is the best forecast. Under this assumption, NMGS may not be needed until the year 2003.

The draft EIS has taken into consideration the possible merger between PNM and New Mexico Electric Service Company. Those merger plans have since been abandoned and are not likely to be resurrected due to the fact that the New Mexico Electric Company system has been purchased by Southwestern Public Service Company and thus is no longer available for integration with the PNM system. This is but one instance of major changed circumstances that have an impact and have resulted in the downward revision of projections by PNM. Other instances are described in the "Comments on the New Mexico Generating Station EIS by Bruce Poster, Economic Consultant, on Behalf of the Attorney General of the State of New Mexico".

Thus, based on PNM's own updated information, it is absolutely clear that the need supposedly addressed in the draft EIS is no longer in existence and thus for the draft EIS to be based on accurate data and be legally sufficient, it must be substantially revised. Since PNM's own information demonstrates a lack of need for NMGS until 1993 at the earliest, there is no pressing need for haste in submitting a final EIS, thus allowing sufficient time for the preparation of a supplemental draft EIS and the reopening of public comment to obtain more accurate, up to date information on the purpose and need for NMGS. In particular, assuming that the Certificate of Public Convenience

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and Necessity from the NMPSC is the last step in PNM's process prior to commencement of actual construction, the application to the NMPSC would be filed seven or eight years prior to the anticipated in-service date, or 1987-1988. Under the "low growth" scenario, this time frame would be pushed back to 1993-1996. The right-of-way which is the subject of the draft EIS is not needed until this time.

April 5, 1983

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STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
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Russell F. Rhodes MPH, Director

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JOSEPH E. JOHNSON
DEPUTY SECRETARY

Environmental Improvement Division Comments on the Draft Environmental Impact Statement for Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town

General Comments

1. The DEIS does not make a convincing case for the need for the generating station. The DEIS itself shows that PNM's total planned capacity, including the New Mexico Generating Station, is always higher than PNM's high growth scenario. In addition, the DEIS avoids discussion of the need and use for the fourth 500-MW generating unit. These factors alone would raise serious questions about the need for the project and about what implications the possible excess generating capacity will have for the company and the New Mexico consumer. The question of need is further confused by public statements made by PNM that, by the company's own admission, contradict statements about the need for generating capacity made in the DEIS. Furthermore, the federal ruling allowing one-half of construction costs to be passed on to the consumer during the construction period makes the question of need a paramount issue of consumer concern.
2. Because of the considerable uncertainty about the possible new town, DEIS discussion of this apparently remote possibility was not reviewed. As a matter of good faith, the U.S. Bureau of Land Management should omit the discussion of the new town from the Final Environmental Impact Statement, so that there is no question that the current environmental impact statement is not an environmental impact statement on the new town, and that a future new town proposal, as stated in the DEIS, "would be subject to the full NEPA process, with a detailed evaluation of expected impacts, based on the applicant's planning and engineering description of the proposals".
3. The expected lifetime of the generating station and possible major problems and impacts of decommissioning are ignored in the DEIS. Would reversible impacts be reversed at termination of the project, or is it currently projected that elimination of all reversible impacts is not feasible due to excessive cost or other considerations?
4. The contents of the DEIS would indicate that discussion of specific subject areas can readily be tracked through the document. In practice, the document is difficult to use, as discussions of specific subjects are too scattered and not always discussed under the obvious headings. While as a practical matter it is probably too late to make the document more focused, indexing the DEIS and referenced documents would be of great assistance. Also of great assistance would be including the list of abbreviations and acronyms in the Contents (it begins on page GI-10). Even more helpful

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would be moving this list of abbreviations to a more prominent place in the document, such as between the listings of document contents and before the Summary.

Comments on Water Quality and Related Impacts

1. Review of the DEIS raises questions about whether the impacts of low flow have been addressed. Whereas flow during critical dry period is defined as 520cfs at Farmington on page 5-7, on page 2-30 the statement is made that "The average discharge of the San Juan River at Farmington that might be expected during a severe drought is about 700 cfs". What do these values represent? How were they derived? Do they realistically indicate low streamflow? It is important that low flow conditions be determined accurately, as the potential water quality impacts of low streamflows are not only violations of numeric criteria, but impairment or even elimination of designated stream uses. Since the support of fisheries is the most vulnerable use and can be affected severely within a relatively short period, the average seven-day flow for recurrence intervals of two, five, and 10 years should be calculated and then assessed to determine whether such flows will have an adverse effect on fisheries.
2. Table 1-1 on page 1-3 of the DEIS does not clearly show that a discharge plan will be required for the power plant facilities at the New Mexico Generating Station.
3. On page 1-15 of the DEIS, it is misleading to say the ponds will be lined with an impervious material. It would be more appropriate to state the lining will have a very low permeability and then state its approximate permeability and what the liner will be made of, i.e. synthetic liner, gunite, clay, or some other material.
4. The discussion of "vegetation" on page 1-29 of the DEIS is an example of how the organization of the DEIS obscures intended actions and impacts and makes review difficult. While commitments are made to minimize disturbance and removal of vegetation and to stockpile soils for use in revegetation, the only specific commitment made on revegetation is revegetation of right-of-ways "with vegetation recommended by wildlife specialists, especially in the elk and deer crucial range areas." As right-of-ways are given in miles, as in Table 1-8, what does this mean? Table 1-9 on page 1-40 of the DEIS indicates 582 acres as the total crucial range to be disturbed. Yet, the project will disturb 475 acres of pine and oak vegetation, 347 acres of sand wash and saline lowland vegetation, 346 acres of badland and steep slopes vegetation, 8,217 acres of grassland and shrubland, and 1,377 acres of pinon-juniper. What is going to be done about revegetation in each of these areas and what sources and amounts of water are to be used? Have potential costs of revegetation been considered?
5. The impacts of water withdrawal on salinity at Imperial Dam are expressed in Table 1-8 of the DEIS and elsewhere as the concentration increase and percent increase at Imperial Dam as if this in itself is the main impact. The use of the information on annual economic costs set forth in Colorado River Salinity: Economic Impacts on Agricultural, Municipal, and Industrial Users (U. S. Department of the Interior, Water and Power Resources Service, Denver, December 1980) in conjunction with the figures provided in Table 1-8

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of the Technical Report results in the following total annual economic costs (in \$80 dollars) for the salinity increase:

1. 35,000 acre-feet annual withdrawal
 - a. without salinity control, \$1,609,597
 - b. with salinity control, \$1,098,998
2. 20,000 acre-feet annual withdrawal
 - a. without salinity control, \$925,518
 - b. with salinity control, \$638,128

These figures, which are more specific than the information provided in the DEIS, are not an end point, but provide a means for further analysis of the allocation of costs of the project and its alternatives and of the geographical distribution of the impacts.

6. Table 1-8 of the DEIS indicates that the proposed action will reduce streamflow by 48 cfs and the alternative by 28 cfs. Will such streamflow changes decrease recharge to aquifers hydraulically connected to the river?
7. Page 2-12 of the DEIS states that the quality of water in ephemeral channels near the generating station site is, after settling, adequate for most beneficial uses. Given that "beneficial" appears to be used in a generalized, non-legal sense, what is meant by this statement? How is or will the water be used? Further, will the quality of these waters be degraded and the use or uses impaired if wastewater is discharged to De-na-zin Wash during upset or off-design conditions or as a result of other project actions?
8. Page 2-9 of the DEIS states that potential effects such as disposal of sewage will be limited to the immediate vicinity of the project facilities. How are sewage effluents to be disposed of?
9. Page 2-30 of the DEIS discusses "designated beneficial uses". Under New Mexico law certain legal criteria must be met for a use to be considered a "beneficial use". As actual diversion of water is one criterion, in-stream flows may be beneficial, but are not beneficial uses. Designated uses, on the other hand, are water uses that the stream standards are designed to protect. Designated uses are existing uses or, if the use is still to be attained, may be desired uses. Therefore, while beneficial use implies that water is actually being used for specific purposes, a designated use may be a water quality goal rather than a description of actual uses.
10. Page 3-13 of the DEIS states that discharges of plant wastewater to De-Na-Zin Wash may occur during upset or off-design condition. The potential amount of this discharge should be anticipated as much as practicable in advance of the construction and operation of the plant. This would allow for plans to be drawn up, such as inclusion of excess evaporation pond capacity, to help mitigate impacts on ground and surface waters.
11. In addition to the pollutants listed on page 3-55 of the DEIS, composite samples should be tested for all pollutants that may exceed the numerical standards listed in Part 3 of the New Mexico Water Quality Control Commission Regulations.

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quality standards in placing special conditions into and certifying NPDES permits in accordance with Section 301(b)(1)(A) of the Federal Clean Water Act.

- c. EID has studied the report used to describe the alluvial ground water quality (Shomaker, 1980) for the Technical Report. Only one well, PNM A-1, located two miles north of the proposed NMGS site, has been completed properly to obtain a representative sample of alluvial water. All of the other alluvial wells described in this report (A-2 through A-7) are of questionable value at best, since they are perforated in both the alluvium and the Pictured Cliffs Sandstone. Thus, the Technical Report does not adequately describe the quality of the alluvial ground water.
- d. Page 3-35 the Technical Report states "the discharge plan must be approved by the EID within 120 days after discharge from the proposed source is initiated." EID strongly suggests NMGS have an approved discharge plan before construction begins. The discharge plan review process for an operation of this complexity may take as long as several years. If NMGS is constructed before discharge plan approval, PNM must assume all financial responsibility and risks should the plant's discharge plan not be approved.
- e. Table 3-5, page 3-16 of the Technical Report shows phenols exceed the New Mexico standards for all of the wells, yet on page 3-15 of the report it states "on occasion, concentrations of phenols may exceed the New Mexico Water Quality Control Commission Ground Water Standard." Examining Shomaker's 1980 report, only A-2, A-4, and PC-2 exceed this standard while wells A-3 and A-7 were not analyzed for phenols. These inconsistencies should be clarified.
- f. Since most of the alluvial ground water is associated with ephemeral surface water drainages, Map 3-1, page 3-12 of the Technical Report, would be more useful if it had surface water drainages drawn on it.
- g. Page 3-40 of the Technical Report states the Shomaker report showed the maximum rate of alluvial ground water flow was calculated as 3.3 feet per year. This is incorrect, because the report calculated the "Darcy Velocity" which should be divided by the effective porosity of the material to yield the actual rate of ground water movement. As an example, if the effective porosity was 0.1, a reasonable value, then the actual rate of ground water movement would be 33 feet per year.
- h. On page 3-38 the discussion on the coal-pile runoff states the levels of dissolved solids are low; however, it doesn't point out that extremely high concentrations of arsenic and selenium resulted from the leaching experiments (Table 3-13). In coal 131 the arsenic and selenium concentrations exceed the New Mexico standards by a factor of 134 and 920, respectively. How do these results apply?
- i. The design capacity for the coal pile runoff ponds should contain a precipitation event larger than the 24 hour - 10 year event. The estimated life of the ponds is 40 years so it appears that the ponds will overflow approximately four times over their lifetimes.

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12. The statement is made on page 3-13 of the DEIS that, "a water quality impact was judged to be significant when the standards or criteria that have been designated to protect beneficial uses of the water body in question were predicted to be exceeded." The standards and criteria are then defined as New Mexico Water Quality Control Commission water quality standards, "Red" and "Blue" book criteria, and U. S. Environmental Protection Agency criteria for toxic pollutants. There are several comments on this statement:

- a. The distinction between designated use and beneficial use has already been addressed in comment 9.
- b. No distinction is made between a standard and what is simply a recommended criteria. Criteria are guidelines and, while being generally true, may be wrong for specific instances. The U. S. Environmental Protection Agency is therefore encouraging states to develop site specific standards.
- c. While the DEIS says that exceedances of standards and criteria were considered to be significant, they are not discussed or tabulated elsewhere in the DEIS. In fact, the discussion on pages 3-10 and 3-11 of the Technical Report merely describes general levels and exceedances and does not draw any conclusions regarding significance. The discussion is not always supported by the data given in Table 3-1 on page 3-2.
- d. Please note that Section 1-1021 of the General Standards included in the New Mexico Water Quality Control Commission water quality standards, must be considered when evaluating the significance of temperature exceedances.
- e. What is the relevance of the water quality and possible uses of the San Juan River and its tributaries to the construction and operation of the project? With the significant exception of salinity, will the project affect the water quality of this river system or result in changes of the use of this water? What is the purpose of the discussion given between pages 3-1 and 3-11 of the Technical report?

13. Additional comments need to be made on the Technical Report:

- a. While the text reference on page 3-1 is correct, Appendix A is incorrectly titled. These are not the complete New Mexico Water Quality Standards, only the antidegradation policy and general standards. Specific standards for the San Juan Water Quality Basin in New Mexico are summarized in the incorrectly titled and labelled Table 3-2 on page 3-4. The title should refer to designated (not beneficial) uses and the water quality standards for a specific stream segment consist of designated uses and numeric criteria, not of numeric criteria alone.
- b. On page 3-8, it is stated, in connection with numeric salinity criteria for the Colorado River, that salinity is not specifically regulated in the San Juan River in New Mexico. The statement confuses standards, which are guidelines for pollution control, with regulations. As is noted correctly later in the Technical Report, saline discharges from point sources are regulated through the federal NPDES permit system. Moreover, the state of New Mexico can and does use Section 1-10 2.K. of its general water

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- j. Table 3-3 should include the 86 toxic pollutants as specified in Section 1-101.UU of the New Mexico standards as amended through September 20, 1982.

Comments on Air Quality and Related Impacts

1. Prevention of Significant Deterioration

As stated in the DEIS, a PSD permit must be obtained before construction can begin on the generating station. This means that a complete PSD application, including an extensive increment analysis, will be filed with EID prior to the start of construction. The PSD application may be reviewed and commented upon by the public upon its receipt by EID.

At this time, it would be premature for EID to judge whether or not the proposed power plant as presented in the DEIS will comply with the PSD regulations and be issued a permit. A PSD analysis is site and source specific and any information derived from previous applications with respect to increment consumption is of only general value. At the same time, it must be pointed out that certainly the possibility exists that the proposed plant will not be able to meet the increment levels specified by the PSD regulations or some other applicable section of the regulations. The important point is that the PSD application will be reviewed in great detail when it is filed, and the public can have input into the review process.

2. Visibility

The discussion on visibility in Section 3.2 of the DEIS does not contain in depth information on potential problems that could occur or be exacerbated by the proposed generating station. These include the following:

- a. The effect of emissions on the integral vistas of Mesa Verde National Park are not addressed. In particular, two locations in New Mexico are considerably closer to the proposed site than Mesa Verde itself. These are Shiprock and the Hogback.
- b. EID and the appropriate Federal Land Manager work together in preventing visibility impairment in Class I areas. Ultimate permitting decisions rest with EID. The National Park Service feels there is currently significant visibility impairment at Mesa Verde and its vistas due mainly to emissions from the Four Corners Power Plant. New control technology being installed at that facility will substantially reduce particulate and sulfur dioxide emissions. However, emissions of nitrogen oxides, an important pollutant with respect to visibility effects, will remain unchanged. How will emissions from the NMGS interact with emissions from the Four Corners plant or the San Juan Plant to affect the existing or possible future condition of visibility impairment in this particular area of the San Juan Basin? Will gains made by controls implemented at the Four Corners Plant with respect to visibility be negated by emissions from the new generating station?
- c. A dispersion model that could be used to predict the effect of a single source on regional haze or layered discoloration of the atmosphere in a direct manner is not available. However, regional haze in the San Juan

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Basin should be discussed by reviewing existing visibility data collected at Chaco Canyon and Mesa Verde. Is visual range remaining relatively constant or decreasing? What are the likely sources of region wide haze? Layered discoloration of the atmosphere due mainly to nitrogen dioxide can be observed at some existing Southwest coal-fired power plants similar in size to the NMGS, such as the Navajo Plant in Page, Arizona. Some attempt should be made to look at the existing situation at other plants comparable to the NMGS with respect to this problem.

- d. As part of the PSD review process, the applicant must demonstrate visibility will not be impaired, not only in Class I areas, but in any area the facility may affect. The BLM New Mexico State Director is recommending the Bisti and De-na-zin Wilderness Study Areas be designated as wilderness. These particular areas are located 2.1 and 3.5 miles respectively from the NMGS site. The PLUVUE model should be used to examine the possibility of plume blight episodes at these areas.

EID is committed to protecting visibility throughout New Mexico. The results of visibility modeling in the DEIS raise our concern because they point to the possibility of significant visibility impairment occurring in the form of plume blight episodes, especially from an observer point in Chaco Culture National Park. The PLUVUE visibility model that was used in this analysis was evaluated as part of EPA's VISTA study by comparing field measurements with model predictions in the area surrounding the Navajo Power Plant in northern Arizona. The results of that study indicated the model was in reasonable agreement with observed field measurements. This suggests that the predictions of plume blight at Chaco Canyon are valid. This issue will be closely examined during the PSD permit review for the generating station, at which time EID will have access to the complete visibility modeling study.

3. Characterization of Particulates

The phenomena of trace metals, such as beryllium, cadmium, mercury, and lead, and polycyclic aromatic hydrocarbons being volatilized during combustion and then condensed back onto small fly ash particle surfaces should be discussed in quantitative terms. The particle size distribution in actual emissions should be given. Estimates of ambient levels of respirable particulates should be made, since those are the particulates of most concern; and it is likely a new federal inhalable particulate standard will be promulgated this year.

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Compact and Mexican Treaty of 1944 are 647,000 ac-ft/yr (Bureau of Reclamation) ...

The sentence could imply an interpretation of the Colorado River Compact which has not been made by the Bureau of Reclamation. The Bureau has carefully avoided making such an interpretation and the Bureau's reports on the subject all contain the following disclaimer:

Nothing in this report is intended to interpret the provisions of the Colorado River Compact, the Upper Colorado River Basin Compact ...

In order to avoid making a critical interpretation of the Colorado River Compact the Bureau of Reclamation has made the conservative assumption for planning purposes that the Upper Basin states can deplete the flow of the Colorado River at Lee Ferry by 5.8 million acre feet annually. Based on that assumption the Bureau has conservatively assumed that New Mexico's share would be 647,000 acre feet annually. The report should be changed to correctly reflect the Bureau of Reclamation's position.

Page 2-30. Under the heading HYDROLOGY the last paragraph states that in operation studies of the San Juan River system the Bureau of Reclamation estimated the physical availability of supply upstream of Shiprock, New Mexico to be 705,000 acre feet per year during the critical drought period. We have not been able to substantiate the value of 705,000 acre feet per year.

The Bureau's operation studies for the Gallup-Navajo municipal water supply project indicate a depletion of the San Juan River in New Mexico of about 647,000 acre feet per year including about 7100 acre feet per year depletion in Arizona and Utah for the ...

MEMORANDUM

March 17, 1983

TO: FILE

FROM: Interstate Stream Commission Staff *PBM*

SUBJECT: Draft Environmental Impact Statement and Draft San Juan Basin Cumulative Overview - Proposed New Mexico Generating State and Possible Town - November 1982

The subject reports have been reviewed and the following items noted. This memorandum does not review that portion of the statement and the overview dealing with the alternative water supply from ground water sources.

IMPACT STATEMENT - NMGS

Page S-7. Under the heading Proposed Water System the report states that the low flow condition is defined as 520 cubic feet per second (cfs) at Farmington. However, at page 2-30 under the heading HYDROLOGY the report states that the average discharge at Farmington during the severe drought period is about 700 cfs. The San Juan River operation study prepared by the Bureau of Reclamation's Southwest Regional office indicates that the critical low period extends from 1952 to 1957 and that the minimum monthly flow during this period with full development would average 365 cfs. You may wish to refer to this study in reviewing the statements on pages S-7 and 2-30.

Page 2-30. Under the heading HYDROLOGY a sentence reads

Estimates of the availability of water based on the ...

170 feet per year does not appear correct as used in the report.

CUMULATIVE OVERVIEW

Page 1-5, fifth paragraph. It is suggested that the second sentence be rewritten as follows:

In order to supply this quantity of water to NMGS, the proposed action would involve acquiring 35,000 acre feet of contract water per year from the Navajo Reservoir supply for release upon demand to the natural channel of the San Juan River for delivery of the water to a river diversion facility downstream.

As written, the sentence could be misconstrued to indicate that direct flow rights to San Juan River water can be acquired and stored in Navajo Reservoir.

Table 3-9 on page 33 presents population projections. The projections are substantially lower than projections presented in the Definite Plan Report, Animas-La Plata Project prepared by the Bureau of Reclamation and in the Water Supply Master Plan for San Juan County prepared by Black and Veatch. On page 3-26, second paragraph a sentence reads:

Under baseline conditions Farmington would have to purchase additional water rights around 1987 to meet projected needs beyond the year 2000.

First, it is not clear why Farmington would have to buy water rights as much as 13 or more years in advance of the need for the additional water. Second, the population projections presented in the Overview indicate that Farmington may have sufficient rights to meet needs ...

It is suggested that the projected water uses listed on page 3-36 be reviewed.

STATE OF NEW MEXICO



Department of Agriculture

GOVERNOR'S CABINET

DR WILLIAM P. STEPHENS
SecretaryTONEY ANAYA
GovernorBox 3189, NMSU Campus
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Phone (505) 646-3007

March 7, 1983

DRAFT

Mr. Charles W. Luscher
State Director (934-A)
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

This letter is to serve as official comment on the Draft San Juan River Regional Coal Environmental Impact Statement (DEIS).

Page 2-24 of the document states that "livestock grazing has been historically, and is presently the primary use of [the] EIS region." Yet relatively little of the large amount of text is devoted to the impacts of this level of coal leasing on the region's livestock industry. In fact, impacts to the livestock industry are only briefly mentioned in the major issues section. The lack of information regarding livestock operators, numbers and class of livestock, and existing range improvements precludes our confidence in the assessment presented. We strongly recommend these types of data be obtained through cooperation with the Bureau of Indian Affairs and be incorporated into the Final Environmental Impact Statement.

The loss of AUM's by alternative using the figure of \$857.00 per AU [as given in the Bisti WSA EIS] will result in direct costs to the livestock operators of:

\$445,000 - No Action Alternative
\$488,133 - By Pass Alternative
\$750,000 - Minimum Surface Owner Conflict
\$876,782 - Target Alternative
\$1.16 million - High Alternative

These costs do not include the value of structural range improvements and watering facilities that will be destroyed or lost to use during the coal mining activities. In addition, grazing access to reclaimed lands will not be resumed until after the effective life of the individual mines. Areas suitable for grazing use may not be useable due to mine location and construction, and removal of range improvements necessary to manage those areas. We suggest that mitigation of these impacts be included in all mine plans and these plans be

- 4 -

Mr. Charles W. Luscher
March 7, 1983
Page 2

prepared using the Section 8 consultation, cooperation and coordination guidelines established in the Public Rangelands Improvement Act (PL-95-614) and the NM BLM Rangeland Consultation Policy. These measures should include planning for access to grazing lands that might be excluded due to mine construction and maintenance of existing watering points or construction of new ones to allow grazing to continue on adjacent allotted lands.

The document states that mined land, even though re-claimed, will not be grazed by livestock for the entire life of the mine (pg. 3.3). Will grazing exclusion on leased tracts be piece-meal as mining progresses or will total withdrawal of grazing privileges occur upon the inception of lease development? What steps will be taken to ensure that the current grazing permittees, or their heir(s), retain the grazing privileges on mined lands after reclamation is completed?

The Surface Mining Control and Reclamation Act of 1977 [USC.1265(b)(19)] requires that mined lands will be reclaimed with a self-regenerating vegetative cover with production potential at least equal to that present prior to strip mining. The problems associated with low soil productivity and low annual precipitation in the San Juan Basin will make it exceedingly difficult to return some mined lands to their previous vegetative productivity. Although some land in the area has been re-vegetated, none of these lands have gone "full-cycle" and have not been returned to use by grazing animals. We recommend that every effort be made to adequately regain the range resource following mining, including the use of fertilizers, soil mixing and amendments, irrigation and deferred use.

Of the alternatives presented in this document, we prefer the "By-Pass" alternative. This alternative would have the least impact upon range resources and livestock operators; it also has the least impact upon roads, powerlines, pipelines, and railroads. For these reasons, we support this alternative if appropriate measures for mitigation of impacts are developed and full compliance with Section 8 policy is maintained.

Sincerely,

William P. Stephens

WPS/cs

TONEY ANAYA
GovernorSTATE OF NEW MEXICO
DEPARTMENT OF
FINANCE AND ADMINISTRATION
STATE PLANNING DIVISIONSOPHIE B. CASPARI, Director
SANTA FE, NEW MEXICO 87503
PHONE 661-7400JIM GUILLEN
Assistant Director

March 22, 1983

DENISE D. FORT
SecretaryMr. Paul Biderman, Secretary
Energy and Minerals Department
525 Camino de los Marquez
Santa Fe, New Mexico 87501

Dear Mr. Biderman:

As requested, enclosed are comments regarding the proposed New Mexico Generating Station draft EIS.

Since the NMGS project involves an exchange of federal and private lands, pursuant to the National Historic Preservation Act of 1966 as amended the Public Service Company of New Mexico has conducted an intensive archaeological inventory of the proposed generating station site in the Bisti area. In accordance with existing procedure and regulation, all sites have been evaluated for their National Register eligibility. The Bureau of Land Management and the Public Service Company of New Mexico are in the process of establishing procedures and responsibilities for subsequent mitigation of impacts to eligible sites in this area, in consultation with this office and the Advisory Council on Historic Preservation.

Sample inventories have been conducted for parts of the transmission line rights-of-way for the purposes of general planning. Complete inventories will be required prior to construction of any right-of-way.

The NMGS draft EIS in general adequately addresses the scope of anticipated impacts, as well as proposed mitigative measures. It addresses the important issue of vandalism in some detail. The proposal to conduct extensive employee education programs regarding archaeological resources may be a particularly effective mechanism in increasing public awareness of this easily destroyed resource base. If the proposed project is approved, we would encourage PNM to carry through on this education program.

If you would like more specific information regarding resources located on the proposed generating station site, please do not hesitate to call.

Sincerely,

Thomas W. Merlan

Thomas W. Merlan
State Historic Preservation Officer
Historic Preservation Bureau
P.O. Box 100

STATE OF NEW MEXICO
NATURAL RESOURCES DEPARTMENTBILL ISAACS
Acting DirectorTONEY ANAYA
Counselor
DR. SHIRLEY HILL MITT
SecretarySOIL AND WATER CONSERVATION DIVISION
Vallejo Building
Santa Fe, New Mexico 87501
Phone (505) 827-1965

March 24, 1983

Mr. David F. Martinez
Comprehensive Planning Bureau
State Planning Division, DFA
SDS Don Gaspar Avenue
Santa Fe, NM 87503

Dear Mr. Martinez:

The Department of Natural Resources is responsible for overseeing the protection and utilization of renewable natural resources in New Mexico (Laws of 1977, Chapter 254, State Statutes). These resources include soil and water, wildlife, timber and forests, native plant life, and attendant outdoor recreation activities.

The Department is responding here to a request for comment on draft environmental impact statements dealing with: 1) San Juan Regional Coal Environmental Impact Statement (November 1982), 2) Public Service Company of New Mexico proposed New Mexico Generating Station and possible new town, 3) Proposed Wilderness Areas Environmental Impact Statement; BISTI, DE-NA-ZIN, AH-SHI-SLE-PAH, and 4) San Juan Cumulative Overview.

The Department has already made extensive comments dated July 26, 1982, to Mr. Andy Dinas of the Bureau of Land Management (Santa Fe office) on vegetation. Certain modifications in our earlier letter are made here relative to the federally threatened species, *Sclerocactus mesae-verdae*, and are explained further on in this letter. Our comments follow.

1. San Juan Regional Coal Environmental Impact Statement.

Considering the massive environmental impact described in this document, it is not clear how the proposed action outweighs the negative effects mentioned. Some type of cost/benefit analysis should be presented with a description of the methodology utilized for review and discussion.

If such an analysis is performed, proper weight needs to be given to the great importance of the area as a recreation resource. Special consideration should be given to primitive, disordered recreation, and the unique natural history potential of this region.

Projections of population growth are always risky and carry with them potentially difficult social, economic, and environmental consequences. Whatever decisions that are made in regard to development of a "new town" should be framed within the general philosophical approach that slow-to-moderate growth allows social and economic institutions and programs the opportunity to keep pace with the demands of a growing population. This also allows time to plan for adequate recreation facilities and to identify possible adverse environmental and natural effects that might occur.

Some thought should be given to consideration of the costs of developing this project with built-in environmental protection plans rather than pitting projects' costs and concerns against environmental protection.

Pollution control system alternatives are presented but no indication is given as to whether the proposed equipment and measures are the best available technology. The descriptions and justifications are compared to state and federal emission standards which are minimum standards to protect public health. Given the environmental sensitivity and existing high air quality parameters, it would be better to show how much these minimum standards would be exceeded and how such parameters as visible range and scenic quality can be protected.

The water requirements projected to support the New Mexico Generating Station, if taken entirely from the San Juan River, could directly affect Navajo Reservoir and State Park and the San Juan River sport fishing and recreational resource. While the alternative of extracting groundwater resources does not appear attractive, particularly when considered in conjunction with projected coal mine groundwater withdrawals, the proposed action (diverting 48 cfs from the San Juan River) and the resultant impact on seasonal lake levels in the Navajo Reservoir and in the Quality Stream Fishery reach of the San Juan River should be explored in more depth. Any lowering of the reservoir or increase in releases to tailwater river flow could have more profound negative impacts than suggested.

EHV transmission lines to the proposed Rio Puerco Substation near Albuquerque should be selected so as to offer the least negative impact to the Chaco Canyon NHP and other WSA's. It is not sufficient that preferred alternatives are shortest in length, most economical, or offer the least denial of striable coal resources.

Alternate T1 or T4 might then be preferable in this light.

The influx of construction and operational personnel and related cumulative population increases for mining and related activities of up to 10% per year, and the predicted levels of increase in recreation user days in San Juan and McKinley Counties, is of concern to "carrying capacities" of existing regional park and recreation resources. The nearby Navajo Lake State Park and Bluewater Lake State Park may be expected to be heavily impacted, as these parks are the only two regional water-based recreation areas and are presently overloaded on typical summer holiday weekends. It is doubtful that the State could fund and construct additional resources required to meet the forecasted demand within the time frame of expected impacts.

In this connection the problem of air quality requires special consideration because reduced visibility and "regional haze" detract from wilderness and recreation values. Established air quality standards are principally reflections of tolerance levels for maintenance of human health and do not satisfactorily address recreation issues. The total effect of massive removals of coal with attendant noise, air quality deterioration, and loss of visual and scenic values should be carefully weighed with respect to discouragement of tourism, quality of life of indigenous citizens, and the short term nature of such resource development on the economy of the region.

Large scale development of the coal resource will also tend to draw large, transient populations of people from elsewhere and this has historically made large demands upon social, environmental, and recreational facilities in the area. Water-based recreation areas such as Navajo Lake and Bluewater Lake State Parks will be especially affected. Costs to the county, communities, and State to maintain a safe, clean environment and adequate recreation facilities will be considerable based upon growth projections that have been suggested.

Specific impacts on the natural ecosystem in this area will be considerable. Under threatened, endangered and special interest plants (pg.2-24) it is stated that a 1982 printout from the New Mexico Department of Game and Fish, Division of Threatened and Endangered Plants in this region is available.

Figure 2-4 (pg. 2-19) is a map of the San Juan Basin with the "EIS region" outlined by a bold solid line (although there is no legend to indicate what the line represents). Since the "EIS region" includes most or all of San Juan and McKinley Counties, parts (western) of Rio Arriba and Sandoval and part of Valencia and Bernalillo Counties as well as the southern part of Montezuma, La Plata, and Archuleta Counties, Colorado, species *Pediocactus knowltonii*, *Sclerocactus mesae-verdae*, *Astragalus humillimus*, *Astragalus knightii* (sp. nov.), *Toumeyia (Pediocactus) papyracantha*, *Abronia bigelovii*, and many others are present. All other DEIS for this region have included a fairly complete list of threatened and endangered plants. A complete list is needed here as well.

The vegetative (Appendix C) impact study is of very coarse resolution, almost at the formation level (Conifer Type, Grassland Type, P/J Type, etc.) and does not adequately address plant communities. Taxa are listed by common or generic common name (Goosefoot, pussytoes, stickseed, etc.), which has low information content.

Reclamation usually merely attempts to provide vegetative cover consistent with post-mining land use (i.e., grazing) rather than attempting to reconstitute disrupted natural ecosystems. This report does not specify which species will be planted but only that a site specific plan will be developed for each area by the Energy and Minerals Department with DSM, MMS, and BLM participating. It does state that vegetative cover should be established in 3 years but that it could take 15-20 years to restore the land to original condition.

2. Public Service Company of New Mexico's proposed Generating Station and proposed new town.

- 2 -

We really do not know enough about plant communities (as opposed to vegetation types at coarse resolution) or rare plant species to adequately assess the impact over the forty-year life span of this NMGS. San Juan County is rich in endemics and narrow peripherals—we discover more every time we look. *Astragalus knightii* is a new species discovered in 1982 by Paul Knight. It is a rare endemic and may be adversely affected by the transmission corridor near the Rio Puerco Substation in Sandoval County. The DEIS does not, of course, address this taxon since it was just discovered. *Penstemon parviflorus* was collected once in Colorado a hundred years ago. It is rare and the Heritage Program believes it has rediscovered it in San Juan County.

Further careful surveys for the extensive list of rare plants in this region need to be done along the suggested rights-of-way and potential site locations. Printout of potential and actual occurrences of rare plants and animal occurrences are available from the New Mexico Heritage Program but site studies are badly needed.

The effect of acid precipitation on rare plant taxa is stated to be unknown. It would be helpful if the map (2-1. San Juan air basin) showed flow patterns with corresponding concentration levels of pollutants in the air. Surely atmosphere pollutants are not uniformly distributed over the air basin.

Water drawdown in the San Juan basin will probably affect the saline lowland vegetation type over time. The impact of water withdrawal from the San Juan River and Navajo Lake will be detrimental to cottonwoods (*Populus*). Without cottonwood regeneration there will eventually be a closed-canopy salt cedar community.

3. Bisti, De-Na-Zin, and Ah-Shi-Sle-Pak Wilderness Study Areas.

In view of the importance to recreation-based economy of all three of these areas as wilderness, it is the

policy of the Department of Natural Resources to protect these areas.

4. San Juan Cumulative Overview.

Since this document is a summary of the preceding three DEIS reports, the Department considers its responses to points 1, 2 and 3 to adequately address the cumulative overview.

Sincerely,

Bill Isaacs, Acting Director
Soil and Water Conservation Division

jd

encl.



New Mexico Bureau of Mines & Mineral Resources
Albuquerque, NM 87106

A DIVISION OF
THE NEW MEXICO DEPARTMENT OF MINING & TECHNOLOGY
January 12, 1983

State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, NM 87501

Comments on the San Juan Basin Action Plan, as explained in the Draft Cumulative Overview, from various staff members of New Mexico Bureau of Mines and Mineral Resources are attached. Our professional scientists have expertise (particularly for New Mexico) in general geology, paleontology, coal geology, soil science, environmental geology, mining engineering, hydrology, geochemistry, mineral economics and other pertinent fields (Anderson, Campbell, Eveluth, Hawley, Johnpeer, Love, J. Osburn, Koybal, Stone, Weber, Wolberg).

Sincerely yours,

Frank E. Kottlowski
Director

FEK/jv

Encl: as stated

COMMENTS ON SAN JUAN BASIN ACTION PLAN

(Note discussion, map & table on pp. 2-7 to 2-11 and 3-10 to 3-12 of SJB Cumulative Overview):

Interesting quotes from the Plan; all inaccurate.

1. "Paleontological resources consist of some of the richest and most extensive fossiliferous beds in the country, and are considered to be of international importance. Together, the cultural and paleontological resources compose a huge, coherent body of information that is unusual for its abundance, regional extension and temporal depth." (p. 2-7)

2. "The San Juan Basin contains a 14,000-foot thickness of sedimentary rocks that were deposited sporadically over the last 600 million years. Most of the geological formations occurring in the basin contain fossils, and a number of the formations are quite richly fossiliferous. A wide variety of ancient depositional environments is represented there and a huge diversity of fossils has been collected, ranging from microscopic plants and marine organisms to 80-foot-long dinosaurs." (p. 2-9)

3. Quote from Lucas, Rigby & Kues, 1981
Advances in San Juan Basin Paleontology highlighting the SJB record at the Cretaceous-Tertiary boundary; also pointing out that the SJB, "has achieved additional biostratigraphic importance by producing three mammalian faunas -- Puerco, Torrejon and Tiffany -- that are standards for the North American land mammal 'ages.'" (p. 2-9) Once again, the dinosaur dominated - mammal dominated argument is propounded.

4. Note Table 2-2, p. 2-11

5. "Many significant paleontological localities have been identified in all three WSAs, and the area is the focus of international paleontological research. The world reference section for paleontological magnetic stratigraphy is within the De-na-zin WSA, with many exposures marking the transition between the dinosaur-dominated Fruitland/Kirtland formations and the upper Ojo Alamo and Nacimiento mammalian-bearing formations." (p. 2-14)

Let's look at this analysis (again):
The Cumulative Overview (CO) is concerned with the use of Federal (Public) lands and their disposition as related to wilderness designation or coal development (including power generated from coal). As such, the basic questions are:

1. Should the lands in question be designated wilderness?
2. What are the impacts on paleontology if coal is developed?

Addressing question (2) first, it seems more reasonable to restrict potential impact assessment to rock units that will be mined. Although mineable coal in the SJB occurs in units other than the Fruitland Formation, the vast preponderance of New Mexico's coal is a Fruitland Formation phenomenon (85-90% of total New Mexico coal). It is an economic fact that

-2-

hindering, for whatever reason, the development of Fruitland coal resources will impede the development of New Mexico's coal industry and the State's economic welfare. There can be no confusion about this point.

Therefore, it is something of a mystery why all the non-essential geological and paleontological gobbledygook is interposed in the CO document. Would it not have been more reasonable to incorporate only Fruitland-related material and discussion? It is also disturbing to read numerous mis-statements of fact, some of which are found in the above quotations.

First, a bit of stratigraphy. The Fruitland Formation overlies the Pictured Cliffs Sandstone, which in turn overlies the Lewis Shale. The Fruitland itself underlies the Kirtland Shale, which in turn underlies the Ojo Alamo Sandstone. The Ojo Alamo underlies the Nacimiento Formation which underlies the San Jose Formation. Now, BLM "public" documents would lead the non-initiated reader to assume that this stratigraphic sequence represents a complete, unbroken, record of rocks and time documenting the transition from the end of the "age of dinosaurs" to the "age of mammals." This is simply not the case. Much argument has and still continues to be centered on the "completeness" of the Cretaceous-Tertiary record in the San Juan Basin. Hiatuses of some magnitude exist or have been suggested to lie within the Kirtland; above and between the Kirtland and Ojo Alamo; within and above the Ojo Alamo and Nacimiento and between the Nacimiento and the San Jose. The most recent dispute over the "transition" from Cretaceous to Tertiary, interestingly enough, involved those maintaining that a complete record exists (Lindsay and Butler, University of Arizona) and those maintaining that a transition is not documented in the San Juan Basin, that in fact the latest Cretaceous is not even found in the Basin (Rigby and others). Rigby was BLM's own vertebrate paleontologist and spent a good deal of his time at BLM attempting to "shoot down" the ideas generated by the Arizona School.

In point of fact, there is a very real technical debate, still on-going, over what the rock unit terms; Fruitland, Kirtland, and Ojo Alamo actually mean!

It is a matter of fact that kinds of animals (dinosaurs and mammals) commonly taken by paleontologists to indicate latest Cretaceous or earliest Paleocene (earliest Tertiary) are not known to occur in the San Juan Basin. The fossil record in Wyoming or Montana much better documents this rock-and-time interval.

All of the above argument would be extraneous if the CO document dealt with coal development in a reasonable way. If the document was reasonable, it would be concerned with the Fruitland Formation, mainly. After all, the Fruitland contains the coal, and Fruitland fossils do not bear on the Cretaceous-Tertiary transition. Moreover, most of the coal in the Fruitland lies in the lower-half of the formation anyway and the lower Fruitland is not very rich in fossils. But the document is rather misleading.

Other matters of fact may be of interest. Table 2-2, p. 2-11, notes that the Jurassic Morrison Formation in the study area, the SJB, contains dinosaurs and mammals. It is certainly true that the Morrison Formation in New Mexico has produced dinosaurs, including remains of a brontosaurus that in life may have been 50 feet long. However, despite the note (on p. 2-9) of, "80-foot-long dinosaurs," the New Mexico brontosaurus consisted of some isolated vertebrae and other scraps, hardly a complete specimen. More importantly, Jurassic mammals are not known from the Morrison of New Mexico. Besides, the Morrison has nothing to do with coal development.

-3-

Further in the table, mention is made of Ojo Alamo mammals. It is most probable that the only report of mammals from the Ojo Alamo actually was erroneous. The fossils in question most likely were from the Nacimiento. But again, this "problem" has nothing to do with coal development.

A lengthy quote from a recent text is presented on p. 2-9. We could argue the inherent inaccuracy of this quote at length but prefer to direct attention to the usage of three land mammal ages, Puerco, Torrejonian and Tiffanian. Not only do these have nothing to do with coal development, the type area for the Tiffanian, although in the San Juan Basin, is not even in New Mexico but is in Colorado!

We now know that the Puerco is not the earliest Tertiary mammal age, an earlier mammal age, the Mantuan, is documented in Montana. Similarly, we now know that the Tiffanian was succeeded by another mammal age, the Clarkforkian, also not present in New Mexico.

Thus, the New Mexico record can be seen to be anything but complete. Less than accurate statements such as on p. 2-14, suggesting that the "world reference section for paleontological magnetic stratigraphy is within the De-na-zin WSA, with many exposures marking the transition between the dinosaur-dominated Fruitland/Kirtland formations and the upper Ojo Alamo and Nacimiento mammalian-bearing formations," are very misleading. True, University of Arizona scientists have done yeoman research on the magnetostratigraphy of the area, but even they would hesitate to designate their efforts as a "world reference section." Magnetostratigraphic correlations are made to complete deep sea sections and, in addition, BLM's own paleontologist, Rigby, (and others) expended great effort to dispute the validity of the completeness of the De-na-zin section. In addition, as noted above, mammals have yet to be demonstrated as occurring in the Ojo Alamo. BLM seems to be overly selective in its use of data.

We wish to be very clear -- we understand and appreciate the value and importance of the stratigraphic and paleontologic record of the San Juan Basin. However, this record must be placed in its proper context and must not be overstated in importance. We do not dispute the fact that there are interesting and important fossils in the San Juan Basin. However, almost all of these have little or nothing to do with coal mining or coal development. It is misleading to suggest otherwise.

The Late Cretaceous is represented in the San Juan Basin. But the record is more complete in Montana, Wyoming, Alberta, Italy, the Gulf coast, in the Raton Basin and probably at Truth or Consequences and many other places. It is really not the place that's important, but the kinds of questions asked.

There are dinosaurs in the San Juan Basin (and at Truth or Consequences as well) but better specimens have been found in Utah, Texas, Wyoming, Montana, Colorado, Canada and elsewhere. We must view our fossils and our coal in proper perspective. Development of one "resource" does not exclude proper care of the other; efforts must be balanced.

With this idea in mind, the New Mexico Bureau of Mines and Mineral Resources, some two years ago, organized a conference/workshop that included 35 participants from the paleontologic community, federal and state government, the Navajo Nation and private industry to discuss paleontology and coal development. Many of the ideas generated at the conference/workshop were incorporated into what has become known as the "New Mexico Paleontology Plan." BLM representatives, both national and local, were participants at the Farmington meetings.

-4-

We believe that the ideas and programs arrived at through these efforts offer a reasonable means of insuring adequate paleontologic mitigation while allowing the development of coal resources to proceed. It seems to us that BLM has not taken cognizance of these ongoing developments within New Mexico related to the initiation of a workable mitigation program in the CO document.

Should the lands in question be designated wilderness?

No.

The Bisti WSA is less than 5,000 acres in extent and should not qualify as a wilderness area. We suggest the Bisti WSA be turned over to the State of New Mexico and utilized in total or in part as a State Park. Bisti bears the imprint of man and just does not correspond to my understanding of wilderness.

Regarding De-na-zin (Ah-sie-sla-pah has already been removed from the WSA roster), we are not prepared to lock up tens of thousands of acres, at best marginal acres, and deny or hinder the development of a viable minerals industry. The dollar figures noted in the BLM documents as being generated by visitor use are not "real." This is not new wealth being created as would be the case with a viable coal industry. The economic well-being of New Mexico, so severely tested at this juncture, needs as much planned development as possible. Air quality, noise, ground-water disruption, reclamation, archaeological mitigation and paleontological mitigation can all be managed -- the programs and technology exist. Economic and industrial stagnation cannot be managed, but the threat exists if development of the coal resources is not allowed to proceed.

In this document, and the 3 DIES on (1) proposed wilderness area, (2) SJ River regional coal leasing, and (3) New Mexico electrical generating station, the availability of water as related to overall possible usage is not clearly treated other than to say that San Juan River water is possibly already over-allocated and that mining of any kind could seriously affect downstream users (how?).

As a "cumulative overview" the document perhaps needs more consideration of the Srar Lake Railroad, other coal developments, uranium mining and other concerns.

The value of visual "resources," which appear to include "badlands," are highly exaggerated. These badlands have been known to most New Mexicans for many years, most are reasonably accessible, and yet there have been few visitors. Why? Main reason is that scenic badlands occur in most parts of New Mexico, including near Santa Fe and near Albuquerque.

What percentage of the taxpayers are concerned with "degrading the quality of views" from the badlands areas? Two percent? Obviously it can not be a large number or large percentage because that would "impair the solitude!" Are these public lands for use by all of the people (or, at least for all of the taxpayers who pay the bills) or just for a favored few?

Combined comments from New Mexico Bureau of Mines & Mineral Resources scientific staff, 10 January 1983, Socorro, New Mexico 87801 (Anderson, Campbell, Eveleth, Hawley, Johnpeter, Kottowski, Love, J. Osburn, Roybal, Stone, Weber and Wolberg).

State of New Mexico



DEPARTMENT OF GAME AND FISH

January 7, 1983

Mr. Charles W. Luscher
Director
Bureau of Land Management
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Bill:

We have received and will comment on the following Environmental Impact Statements:

1. Proposed Wilderness Areas
2. New Mexico Generating Station and Possible New Town
3. San Juan River Regional Coal

The EIS as prepared for the Proposed Wilderness Areas is adequate to comply with regulation requirements.

The habitat and wildlife data addressed in the EIS for the New Mexico Generating Station is superficial, therefore, it is difficult for us to gauge with any accuracy the losses to wildlife. We feel these sections need to be greatly upgraded before we can concur with the statement.

Federally endangered species and certain game species are adequately treated in the San Juan Regional Coal EIS but, datum for other wildlife species within the area are lacking. This lack of information limits our ability to measure the impacts on those species. The only statement we are able to make is that we would favor the alternative that has the least amount of disturbance.

Thank you for the opportunity to review and comment on the above EIS's.

Sincerely,

Harold F. Olson
Harold F. Olson
Director

cc

RICHARD D. LAMM
Governor



JERISA DANIELSON
State Engineer

OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES

1313 Sherman Street-Room 818
Denver, Colorado 80203
(303) 866-3561

December 23, 1982

State Director
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, NM 87501

Re. San Juan River Regional Coal
Draft Environmental Impact Statement (DEIS)

Dear Sir:

Thank you for the opportunity to review the above referenced DEIS. We have no objection to the proposed coal mining operations provided the state of New Mexico administers water so that New Mexico complies with all water compacts.

Sincerely,

Hal D. Simpson
Hal D. Simpson, P.E.
Assistant State Engineer

HDS/JRI:ma



STATE OF NEW MEXICO
HIGHWAY DEPARTMENT

M-Special Studies

January 17, 1982

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Santa Fe, NM 87503
505-983-0221

AN EQUAL
OPPORTUNITY
EMPLOYER

State Director
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87503

Dear Sir:

The New Mexico State Highway Department, Planning Bureau has reviewed the "Draft Environmental Impact Statement for Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town; November, 1982". There are some items which should be corrected for the final statement.

NM 371 begins at a junction with NM 57, northeast of Crownpoint, and travels north to Farmington. NM 57 travels through Thoreau north to a junction with NM 371, then east and north through Chaco Canyon National Monument to a junction with NM 44 at the Blanco Trading Post. References to these routes on page 2-26 should be changed to accurately reflect the true beginning and ending points. All remaining dirt or gravel portions of NM 371 have been programmed for construction. The final stages of construction on NM 371 should be completed in 1984.

The Bloomfield Highway extension, referenced on page 2-27, is in the Department's Five-Year Plan.

The final item deals with the mitigating measures mentioned on page 3-59. The New Mexico State Highway Department would place conditions on road usage only if loads exceed legal maximum limits. If this situation arises, the conditions and terms would be handled on a case by case basis.

We would like to thank the Bureau of Land Management for the opportunity to comment on this Draft Environmental Impact Statement.

Sincerely,

A. W. Gonzales
A. W. Gonzales, Chief
Planning Bureau

DR/gs

RICHARD O. LAMM
Governor



JERIS A. DANIELSON
State Engineer

OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES

1313 Sherman Street, Room 818
Denver, Colorado 80203
(303) 866-3581

February 14, 1983

State Director
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, NM 87501

Re: Public Service Company of
New Mexico's Proposed Generating
Station, Draft Environmental Impact
Statement (DEIS)

Dear Sir:

We have received and reviewed the above referenced DEIS. Part of the water supply for the new Generating Station under Alternative 2 would be a large well field. The well field would tap the Westwater Canyon Member of the Morrison Formation. The DEIS estimates that pumping from the well field will decrease the natural ground water discharge to the San Juan River, Rio San Jose, Rio Puerco, and Puerco River by an estimated D.09 cfs. Would there be any impact to the mainstems and tributaries of the Animas, La Plata and Mancos River in Colorado? What would be the timing of any impact to these streams?

The DEIS states that construction of the well field would result in significant impacts to ground water users which extract water from the Westwater Canyon Member, the Dakota Sandstone, and the Entrada Sandstone aquifers. The impact in Colorado would not be felt for several decades. We are concerned that Colorado ground water users in the Dakota Sandstone will eventually be injured. Will there be a significant impact to these users? If so, how does Public Service propose to mitigate the future injury?

As a final comment, we want to stress that the proposed Generating Station does not nullify the provisions of the Upper Colorado River Compact.

Sincerely,

Hal D. Simpson, P.E.
Assistant State Engineer

HDS/JRH.ma

cc: Chuck Lyle, Div. Eng.

N.M. State Park & Recreation Division
Planning and Development Section

PRELIMINARY COMMENT ON SAN JUAN BASIN'S THREE E.I.S. DRAFTS

1.) Bisti, De-na-zin, and Ah-shi-sle-pek Wilderness Designations E.I.S.

- A. We would support Wilderness designation for Bisti and De-na-zin.
- B. It is not clear why Ah-shi-sle-pek would not be designated wilderness other than to make 770 million tons of coal deposits available for strip mining. More justification for the sacrifice of this potentially important wilderness area should be shown.

2.) San Juan River Regional Coal Leasing E.I.S.

- A. It is not clear how benefits from the proposed action would outweigh the massive environmental impacts described in the DEIS. The Secretary of the Interior's leasing targets notwithstanding.
- B. The overall importance of the Region as a recreational resource for primitive, unconfined, and dispersed recreation, and for appreciation of natural history, should be given more weight.
- C. Contributions to "regional haze" and decrease of visual range and related adverse impacts to the environmental quality of the region should be couched in terms of impacts to recreationists and wilderness users vs. comparisons to air quality "standards" which are related to maximum tolerable levels for maintenance of human health.
- D. The adverse impacts of noise, visual effects, and reduced visibility would be unacceptable for recreational enjoyment due to the disruption of wilderness characteristics, "naturalness," and opportunities for solitude.
- E. Population increases associated with increased coal mining are more likely to cause seasonal over-utilization and overcrowding in regional park and recreation areas than the statement would lead a reader to believe. This would be particularly true of expected impacts on Navajo Lake and Bluewater Lake State Parks, the nearest water-based recreation areas.

3.) PHM New Mexico Generating Station E.I.S.

- A. The need for the proposed action is based on forecasts of high growth in New Mexico which notoriously contain high levels of uncertainty. A more conservative approach using low or middle growth forecasts would seem more reasonable, and might postpone early wholesale destruction of regional wilderness, recreation, and scientific values until proven essential to the state or national welfare.
- B. Site selection considerations and alternatives were explained but an

overwhelming bias toward project economies vs. environmental protection is evident. A more thorough consideration of site alternatives and project segmentation (possible multiple sites with smaller plants) with associated environmental costs/benefits should be presented.

- C. Pollution control system alternatives are presented, but no indication is given as to whether the proposed equipment and measures are the best available technology. The descriptions and justifications are compared to state and federal emission standards which are minimum standards to protect public health. Given the environmental sensitivity and existing high air quality parameters, it would be better to show how much these minimum standards would be exceeded and how such parameters as visible range and scenic quality can be protected.
- D. The water requirements projected to support the NMGS, if taken entirely from the San Juan River, could directly affect Navajo Reservoir and State Park, and the San Juan River sport fishery and recreational resource. While the alternative of extracting groundwater resources does not appear attractive, particularly when considered in conjunction with projected coal mine groundwater withdrawals, the proposed action (diverting 48 cfs from the San Juan River) and the resultant impact on seasonal lake levels in the Navajo Reservoir and in the Quality Stream Fishery reach of the San Juan River should be explored in more depth. Any lowering of the reservoir or increase in releases to tailwater river flow could have more profound negative impacts than suggested.
- E. EHV transmission lines to the proposed Rio Puerco Substation near Albuquerque should be selected so as to offer the least negative impact to the Chaco Canyon N.H.P. and other WSA's. It is not sufficient that preferred alternatives are shortest in length, most economical, or offer the least denial of strippable coal resources. The discussion of alternatives and the preferred action should more fully discuss environmental trade-offs. Alternate T1 or T4 might then be preferable in this light.
- F. The influx of construction and operational personnel and related cumulative population increases for mining and related activities of up to 10X per year, and the predicted levels of increase in recreation user days in San Juan and McKinley counties, is of concern to "carrying capacities" of existing regional park and recreation resources. The nearby Navajo Lake State Park and Bluewater Lake State Park may be expected to be heavily impacted, as these parks are the only two regional water-based recreation areas and are presently overloaded on typical summer holiday weekends. It is doubtful that the state could fund and construct additional resources required to meet the forecasted demand within the time frame of expected impacts. This would likely result in spill-over to other recreational resources such as WSA's or dispersed areas of popularity which are likely even less able to cope with the increased user pressure. An exploration or possible mitigation measures such as proponent-funded or subsidized developments of additional recreational resources would be valuable.
- G. Finally, in the cumulative overview, the basic trade-off of massive environmental disruption and environmental quality degradation in a relatively unspoiled area of very significant scenic and scientific importance

vs. short-term economic gain by quick, expedient, and wasteful methods is glossed over. Can a proposed project, even a preferred alternative, be recommended to proceed when non-renewable energy resources are mined and burned to deliver resultant energy at 30.5% efficiency to a fore-casted consumer body at the expense of regional air quality, visible range, and destruction of cultural and natural historical values? Are there further alternatives to the proposed actions which could yet be explored with more emphasis on protection of environmental quality and less emphasis on short-term economic gain? If not, we would recommend against proceeding with the cumulative project developments.

Comments by:

Jim Weston (827-7857)
Peter Greene (827-7858)



State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

JIM BACA
COMMISSIONER

March 18, 1983

Charles W. Luscher, Director
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

As Commissioner of Public Lands and as an interested citizen, consumer, and conservationist, I am responsible for the management of over 942 thousand acres of land and mineral resources in Northwestern New Mexico. Additionally, there are some 36,858 acres in four of the northwest counties under coal lease from this office. For these reasons, I welcome the opportunity to comment on those issues in the draft Environmental Impact Statements (E.I.S.) that I consider most critical. My comments will be general in nature and summarize the issues and concerns because my specific minerals policy, as related to both economic development and environmental values, cannot be fully discussed in this letter. In part, my statements will reflect some of our mineral programs while presenting my outlook on important recent trends and events which may affect decisions being made as a result of the various proposals discussed in the E.I.S.'s.

To put some of these events in perspective, the bright outlook for coal trade and planned expansion of coal fired generation stations has been pushed back as a result of major energy conservation efforts and the Nation's economic recession. A New Mexico Energy Research and Development Institute (NMERDI) study recently completed, aimed at determining the marketability for New Mexico coal, concluded that increased demand for New Mexico coal will not take place until the middle 1990's. This current situation makes it essential to review and look at alternatives to the coal lease schedule stated in the coal E.I.S. It must be done in order to assure fair market value and to foster strong competition for lease bidding. To meet these important leasing criteria, rather than lease all the coal at one sale, I suggest that the BLM divide the sale into smaller offerings and stagger the lease schedule over the next four years. This, in effect, will test the coal market. If the climate for coal improves, and if sales indicate a strong market, the BLM should then schedule other sales. Further, in recognizing the importance of sound conservation practices and orderly economic development, "by pass" and maintenance coal should be offered for lease as scheduled to coincide with present needs. Our own leasing programs are now being structured to consider the interaction of the economic and environmental concerns to best manage our lands.

Mr. Charles W. Luscher
March 18, 1983
Page 2

Furthermore, I support the Bureau of Land Management proposal to protect both the Bisti WSA and the Huerfano WSA wilderness resources. As Commissioner I agree to work closely with the Bureau of Land Management to assure that leasing activities on adjacent state lands have minimum effect on wilderness areas. Previously, I have advised the Bureau of Land Management that I would consider land exchanges with the Bureau in an effort to improve management of both BLM and state lands.

In reference to the Bisti Coal Lease Exchange and Ute Mountain Exchange, at this time, I wish only to offer my assistance should any litigation be necessary involving state lands. The environmental issues regarding the N.M.G.S. can better be addressed by other agencies directly delegated that authority. At a later date, I may wish to address the impacts of the N.M.G.S. should I determine they adversely affect state lands.

Thank you for giving me the opportunity to express my concerns on these most important issues.

Sincerely,

Jim Baca
JIM BACA
COMMISSIONER OF PUBLIC LANDS

State of New Mexico

GOVERNOR
DIRECTOR AND SECRETARY
OF THE COMMISSION



DEPARTMENT OF GAME AND FISH

SANTA FE
NEW MEXICO

STATE GAME COMMISSION
JAMES M. RICH
SANTA FE

April 26, 1983

Mr. Charles W. Luscher

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April 26, 1983

Pages 3-3 and 3-4 The account on the black-footed ferret needs updating, including reference to the recently discovered Wyoming population. Contrary to "Hansen (1981a)", there are reliable sightings of ferrets in New Mexico in recent years (e.g., circa 1970); however, the 1954 "specimen" is not extant and is unverified. The various surveys for ferrets in New Mexico have been superficial and of dubious value, and therefore, they are poor evidence contra the persistence of the species. Finally it is no longer thinkable to declare the ferret "extinct" (extirpated) in New Mexico.

Pages 3-6 and 3-7 Your statements implying a "no effect" on the bald eagle from the proposed project is upen to question. On the contrary, the project may well negatively impact on the species, but the total population affected would be small.

Page 3-12, lines 19-22: It should be emphasized that it is the recent occurrence of the Colorado squawfish in New Mexico that is unconfirmed--not that of the 1960's and earlier.

Wildlife and Aquatic Biology Technical Report, Pages 2-2 and 2-3. Under "Indicators of Significance", one would expect a clear-cut categorization of species to be set up and then followed throughout the report. Instead, one finds a listing of four criteria in this section, whereas in the main body of the report, the approaches to wildlife are either by species (e.g., elk/pronghorn antelope/mule deer/coyote/prairie dog/scalped quail/mourning dove, etc.) or by group (e.g., big game/small mammals/birds/raptors/waterfowl/other wildlife species/aquatic species, etc.). This is confusing to say the least, and we are unsure that all the criteria on Page 2-2, lines 20-25, are actually represented by examples.

Page 3-3: As far as the study area is concerned, the montane vole, spotted owl, downy woodpecker, smooth green snake, and bullfrogs are not typical of ponderosa pine/oak/pinyon pine woodlands. In fact, some of these species are not known to occur in the study area.

Page 3-5, lines 1-3: Species such as the red-headed woodpecker and Baird's sparrow are extremely rare in the study area and should not be given as examples of birds occurring here in shrubland/grassland habitats. In fact, these are not the habitat of the woodpecker, nor of the ring-necked pheasant. The woodpecker and sparrow are State-endangered species that are not otherwise discussed in the report.

Page 3-5, lines 9-20: Poor or incorrect examples of species of juniper savannas: pinyon/juniper woodlands are goshawk, peregrine falcon, merlin, band-tailed pigeon, spotted owl, and downy woodpecker.

Page 3-8, line 14 and elsewhere: *Cynomys gunnisoni* is the Gunnison's prairie dog, whereas the name used here--white-tailed prairie dog--actually refers to another species, *C. leucurus*.

Page 3-8, lines 24-25: Gambel's quail is implied here to be introduced in New Mexico, but this is not the case in most of its range in the State--although it may be in the study area.

Mr. Charles W. Luscher
State Director
Bureau of Land Management
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Bill:

Thank you for your letter of March 10, 1983, in reference to the Draft Environmental Impact Statement on the proposed New Mexico Generation Station. We have now reviewed the technical reports on "Threatened and Endangered Species" and on "Wildlife and Aquatic Biology". Our comments on these are given below.

Threatened and Endangered Species Technical Report Page 1-15, line 6: Additional candidate species need to be treated, especially those in the recent Notice of Review (Federal Register, Vol. 47, No. 251, Pages 58454-58460, December 30, 1982). The species to be treated include razorback sucker, Jemez Mountain salamander, white-faced ibis, Swainson's hawk, ferruginous hawk, mountain plover, western yellow-billed cuckoo, spotted bat, swift fox, and perhaps others--especially if "acid rain" effects are to be considered.

Page 1-15, lines 22-23: You mention the New Mexico Wildlife Conservation Act here, but the only species treated in your report are those that are also federally listed. You should either treat the purely State-listed species here as well, or indicate that they are treated elsewhere.

Page 1-17, lines 1-12 See above, under Page 1-15, line 6.

Page 3-2, Table 3-1: Correct names are *Cypha* (not *cypha*), *stomias* (not *stimus*), and *mesa-verdae* (not *mesae verdae*).

Mr. Charles W. Luscher

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April 26, 1983

Page 3-11, lines 20-25 The discussions here and elsewhere in the report on "Other Wildlife Species" are so limited in scope as to be of little value at best. One would expect that more attention would be given to such wildlife, especially those meeting criteria 2, 3, and/or 4 under "Indicators of Significance". For example, species of rare, declining, or uncertain status certainly exceed those covered under "raptors" or "Special Status Species". A notable category that might be expanded is that of peripheral species, which in this study area includes--among others--various Great Basin breeding birds, e.g. Brewer's and sage sparrows.

Page 3-19, lines 10-19 The Department of Game and Fish has conducted aerial surveys of waterfowl in the San Juan Valley for over 20 years. Have these data been consulted in formulating this report?

Pages 3-20 and 3-21 It is not very helpful to refer to other reports under "Other Wildlife". Instead these findings should be repeated in the present report whenever appropriate, at least as an annotated list. This applies in particular to nongame birds, small mammals and reptiles.

Pages 3-26 and 3-27 Table 34 shows "Fishes of the San Juan Basin", however, we are unaware of the occurrence in the New Mexico segment of Notropis heterolepis (blacknose shiner), or the persistence of Ictalurus furcatus (blue catfish), while Etheostoma exile (lowa darter), does occur. Note that the common name for the above Notropis is blacknose shiner rather than bluntnose shiner, while placita should be placitus.

Page 3-28, lines 18-23 The statement is in error that "Koster (1957) did not report... (the red shiner) as occurring in New Mexico. ... He did report it in New Mexico but not in the San Juan River--where it has been present since at least 1964.

Pages 3-20 through 3-53 I can understand the placement of State-endangered species in this section, while those that are federally listed would be in the previous report. Under this approach, the peregrine falcon should not be treated here--in keeping with the absence in the present report of black-footed ferret, bald eagle, and Colorado squawfish. I am somewhat puzzled at other species that are or are not treated in this section, including other State-listed endangered taxa that do occur, such as Mississippi kite and red-headed woodpecker. If one also considers acid rain as a possible project impact, then additional State-endangered species should be treated--including the boreal toad and Jemez Mountain salamander.

The inclusion here of the mountain plover as a Bureau of Land Management "species of high interest" is perhaps valid, especially given the inclusion of this bird in the Notice of Review mentioned above. However, what are the criteria for your "species of high interest", and are there others that occur in the area that might be so treated? If such species are to be included then what about those listed under other auspices? For example, the proposed list of "National Species of Special Emphasis" (Federal Register, Vol. 47, No. 178, Pages 39890-39891, September 10, 1982) mentions several species in the

Mr. Charles W. Luscher

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April 26, 1983

study area that could have been discussed in detail, including coyote, mallard, osprey, golden eagle, mourning dove, and "songbirds". In addition, the U. S. Fish and Wildlife Service has produced a list of species that are of concern in regard to the impacts of surface coal mining. Among the species treated there that occur on the study area are Brewer's sparrow, burrowing owl, logger-head shrike, white-faced ibis, white pelican, great blue heron, and Lewis' woodpecker. The point is, there are sources for selecting additional species for focus in this report, yet these do not appear to have been consulted consistently, systematically, or completely--even for species that occur regularly in the area in question.

In view of the incompleteness of the coverage of wildlife species in these two reports, I do not feel that it is worthwhile to comment on impact mitigation, and recommendations section. To do so would focus on incomplete data, unless I am willing to fill in the gaps in terms of species covered. Inasmuch as I do not care to take this liberty, I would suggest that the data gaps be filled and presented for review.

Sincerely,

Harold
Harold F. Olson
Director

ca

LOCAL AND AMERICAN INDIAN GOVERNMENTS

Aztec Chamber of Commerce

Uniting the Past and the Present for a Future



AZTEC - Home of the Aztec National Monument with the World's Only Restored Great Enclosure

Phone 806 334 9661 AZTEC, NEW MEXICO 87410 126 North Main

January 19, 1983

Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Re: BLM Hearing on the Bisti
Project - January 12, 1983

Dear Sir:

In as much as the Aztec Chamber of Commerce representatives spoke first at the hearing, before having heard other speakers, it is felt there is added input to be aired.

We realize there will be disadvantages; air pollution problem- hopefully, with new federal standards the air will remain pure. Uprooting of Navajo residents - as they are "in favor" of the project, perhaps a reasonable consideration can be made re-imbursing them for needed changes. Colorado tourist industry (suffering from amog)- hopefully they will overlook a measure of air quality (as they do the Durango Narrow Gauge Train). We N.M. residents do not want a tailings pile at the end of our Main Street, nor mill tailings (such as from Silverton mine) polluting our rivers.

Those present from Aztec felt there would be disadvantages; but the advantages far outweigh them. We do not enjoy "boom or bust" conditions, but feel we are located in an energy rich area and should not hold out on other areas needing energy. It is our responsibility to develop it.

The Aztec Chamber of Commerce representatives are ready to work for a better quality of life for our residents, made possible thru a better economy, and hope our neighbors will do the same.

Steve Labourn
Steve Labourn

Cathy Daddow
Cathy Daddow

Mike Williams
Mike Williams

Phyllis Silke
Phyllis Silke

JOE T. DUNLAP
Chairman
TODD HICKMAN
Chairman Pro Tem
DONALD BENALLY
Member
WALLACE DAVIS
Member
JOHN JONES
Member

SALLY WELLES
Manager
505 334 9461

San Juan County

1121 MESA VERDE
AZTEC, NEW MEXICO 87410

March 21, 1983

Mr. Charles N. Luscher, Director
New Mexico State Office
United States Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

The San Juan Board of County Commissioners, at its regular meeting of March 17, 1983, unanimously approved Resolution #82-83-39 setting forth the County's official policy on energy development within the San Juan Basin. A copy of the Resolution is attached for your information and review.

The policy is both equitable and realistic, since it provides for a careful balancing of all competing interests, as well as setting a series of achievable goals that will benefit the entire State of New Mexico.

Since we believe it is imperative that actions identified within this policy be implemented at the earliest possible date, we are requesting BLM take all appropriate actions towards achieving this end. If you have questions, or require additional information, do not hesitate to contact me.

Sincerely,

Sally Welles
Sally Welles,
County Manager

SW:nb

Enclosure

cc: L. Paul Applegate, Manager
Albuquerque District
Forrest Littrell, Manager
Farmington Resources Area

SAN JUAN COUNTY

RESOLUTION #82-83-39

POLICY STATEMENT OF THE SAN JUAN BOARD OF COUNTY

COMMISSIONERS RELATING TO ENERGY DEVELOPMENT IN THE SAN JUAN BASIN

WHEREAS, unemployment is a serious problem for the County of San Juan, the State of New Mexico, and the United States; and,

WHEREAS, it will require the cooperation of government and private business on all levels to improve the state of the economy; and,

WHEREAS, the San Juan Board of County Commissioners has reviewed the Draft San Juan Basin Cumulative Overview, the Draft Proposed Wilderness Areas EIS, the Draft EIS on Public Service Company of New Mexico's Proposed New Mexico Generating Station, and the Draft San Juan River Regional Coal EIS; and,

WHEREAS, the implementation of a number of the alternatives outlined within these documents will greatly assist in an economic recovery with only a limited expenditure of public funds; and,

WHEREAS, it is necessary to preserve parts of the United States in a natural and undeveloped state for both present and future generations; and,

WHEREAS, it is important to protect the interests of all citizens of San Juan County.

NOW THEREFORE BE IT RESOLVED, that the San Juan Board of County Commissioners strongly supports the following:

1. Implementation of the Ute Mountain Land Exchange to protect the environmental qualities of the Ute Mountain area and facilitate the implementation of item 2 below.
2. Construction of the New Mexico Generating Station as proposed by Public Service Company of New Mexico.

3. Immediately undertaking competitive coal leasing based on the "high level alternative" as outlined in the Draft San Juan River Regional Coal EIS.
4. Removing the Ah-shi-ah-pah Wilderness Study Area from further consideration for wilderness designation.
5. Designation of portions of Bisti and De-na-zin Wilderness Study Areas as wilderness, provided this designation will not interfere with the construction of the New Mexico Generating Station.
6. Furthermore, these actions should not be undertaken without reasonable efforts to insure the least possible amount of disruption in the lives and lifestyle of the residents within this portion of San Juan County.

BE IT FURTHER RESOLVED that the San Juan Board of County Commissioners formally requests the assistance of the Honorable United States Senators Pete V. Domenici and Jeff Bingaman and the Honorable Members of the United States House of Representatives Bill Richardson, Manuel Lujan, and Joe Skeen, to assist in implementing these actions at the earliest possible date.

PASSED AND ADOPTED this 17th day of MARCH, 1983.

BOARD OF COUNTY COMMISSIONERS

Jim T. Dunlap
JIM T. DUNLAP, CHAIRMAN

ATTEST:

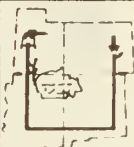
Sandra Townsend
SANDRA TOWNSEND, COUNTY CLERK

Todd Hickman
TODD HICKMAN, CHAIRMAN PRO TEM

Donald Benally
DONALD BENALLY, MEMBER

Wallace Davis
WALLACE DAVIS, MEMBER

John Jones
JOHN JONES, MEMBER



Navajo Health Systems Agency

Post Office Box 1449 • Window Rock, Arizona 86515 • (602) 876-5511 • Harold J. Smith, Executive Director

April 05, 1983

State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

The draft San Juan Regional Coal EIS, NMGS EIS, and San Juan Basin Cumulative Overview do not adequately address the impact of the proposed development upon the health of persons residing in the San Juan Basin. In none of these reports is a comprehensive section included which discusses the implications for human health of the various environmental and socio-economic impacts which are delineated, and no attempt is made to consider the cumulative and synergistic effects of current and proposed levels of energy-related development on the physical and mental well-being of local people.

The potential for adverse effects on health is clearly present, and warrants careful examination. The NMGS may entail distinct hazards to the local population in the various phases of the operation. During site preparation and construction, the rapid population increase occasioned by the need to import skilled construction workers may result in a "boom town" syndrome, magnified by cultural differences between local residents and newcomers. Grazing use of the land by nine Indian livestock owners will be lost (U.S. Department of the Interior, 1931 (2), pp. 1-14). The transportation, handling, processing and storage of coal to fuel the plant will necessitate road construction and concomitant loss of land for other uses; the dissemination of coal dust; and the generation of at least annoying and potentially stressful levels of noise pollution.

The operation of the generating plant will produce emissions of sulfur oxides, nitrogen oxides and particulates, resulting in some degree of air quality degradation. Health effects of sulfur oxide and particulate emissions from coal-powered electric plants include "chronic respiratory disease and aggravation of symptoms

The Navajo HSA is designated under P.L. 96-487
as a separate unit of general land government reserved to the Navajo Tribal Council

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Page 3

Inadequate waste water and sewage treatment facilities, with the possibility of environmentally-caused disease outbreaks, increased automobile accident rates; and perhaps most important, increases in domestic violence, crime rates, alcohol consumption, and mental problems caused by the stress of rapid growth and cultural conflict (University of Oklahoma, 1977, p. 58, p. 119; Myhra, 1980, p. 30; Davidson, 1977, p. 179). Even an increase in cases of plague has been predicted in the wake of higher density settlement in the area (University of Oklahoma, 1977, p. 117).

References to these potential health hazards are scattered throughout the documents under review. The Cumulative Overview, for example, mentions noise (pp. 3-8, 3-9, 3-28), without assessing whether the projected noise levels would be expected to be stress-inducing. The impact of energy-related development on traditional lifeways is acknowledged (pp. 3-12, 3-38) without any mention of the potential adverse effects on the health of traditional people when their way of life is disrupted, especially through relocation. The anticipated rapid growth in population is also discussed with regard to effects on employment, housing, public services and facilities, and public finances (pp. 3-33 to 3-38). However, the potential for "boom town" problems is not comprehensively addressed, and the health consequences of population growth receive no attention whatsoever. The linkages between the changes in air quality, water quantity and quality, population increases, etc., and effects on individual and public health are not addressed in the Cumulative Overview, with the exception of the mention of an increase in traffic accidents attributable to the population growth. The other documents under review, while containing more specific and detailed data, also fail to address many of the possible health implications of the multitude of projected changes in the natural and socio-economic environment. Only the NMGS EIS contains a section on health and safety, which addresses only air quality and accidents associated with the NMGS itself (pp. 3-46, 3-49).

Perhaps most importantly, the impacts of relocation on the health of Navajo people are not adequately addressed. Under the target alternative, 125 Navajo families would be required to relocate. It is also acknowledged in the SJRRCEIS (p. 2-47) that the Navajo Tribe has selected public land in New Mexico in the vicinity of the competitive coal lease tracts as the site for possible relocation of residents of the Former Joint Use Area (p. 2-47). The "boom town syndrome" can be expected to have particularly negative consequences for persons who have been forced to relocate or who have lost grazing lands, either due to energy development, or to the partition of the lands in the Former Joint Use Area. Studies of populations forced to relocate

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Page 2

among persons with serious, chronic heart-lung problems" (Barrager, 1976, p. 15). Coal dust and road dust may also produce respiratory problems (Merrifield, 1982, p. 16). Air pollution in the form of nitrogen oxide, particulates and hydrocarbons produced by energy-related urban development may be equally detrimental as a source of respiratory problems as the energy facility itself (University of Oklahoma, 1977, p. 30). No information on the effects of carcinogens which are present in fossil fuel emissions, nor on the genetic effects of these emissions are available (National Research Council, 1980, p. 53). Coal combustion releases radioactivity into the atmosphere and solid wastes from coal combustion can also be a source of radiation (National Research Council, 1980, p. 53).

In addition, some water used in the cooling cycle may be drawn from a well field in the vicinity of NMGS, with possible effects on the availability of water to other users in the area. Failure of holding ponds or seepage can contaminate surface and ground water with toxic heavy metals, including mercury, with the potential for concentration in human tissues (University of Oklahoma, 1977, p. 141). The storage and disposal of wastes will involve additional hauling by truck, and presents potential hazards of ground water and surface water contamination. Finally, the 500 KV electric transmission lines required may have direct effects on the health of human beings and livestock as a result of the electromagnetic fields generated in their vicinity (University of Oklahoma, 1975, pp. 12-38). The construction of the right of way will possibly require relocation of families, impairment of grazing rights, and disturbance of the land by the necessary access roads. All of the proposed development may impact on burial sites and religious sites important to the local residents.

The most easily predictable impacts on health would derive from the rapid population growth in the area necessitated by the development. These "boom town" effects are most pronounced in rural areas and isolated communities, and in areas where the local labor force can contribute relatively little to the labor needs of the development (University of Oklahoma, 1977, p. 71). It has been found that differences in the characteristics of Navajo populations around energy development sites are due to in-migration of younger, better-educated, more skilled workers, while the local residents remain largely unaffected and dependent on other sources of income (Callaway, 1976, p. 1x).

The "boom town" impacts will most probably include an overloading of health and social service providers; inadequate housing;

LETTER to Bureau of Land Management
April 05, 1983
Page 4

have found that relocation causes depression, resulting in alcohol abuse, violence, and physical illness, which may lead to premature death (Scudder, 1979, p. 10). Evidence suggests that relocation stress among Navajo relocatees may exceed that of other groups studied due to the strong attachment of Navajos to the land and the insecurity with regard to land tenure which would be experienced by these relocatees. The successful adaptation of the relocatees from the Former Joint Use Area will depend on their ability to maintain current lifestyles in their new homes (Topper, 1979, p. 22), an ability which could be severely prejudiced by energy development activities. "Residents of the FJUA who are facing relocation have a higher incidence of mental health complaints than residents not facing relocation or Navajos in general", and the rates of depression are two times that of all Navajo patients receiving mental health treatment from IHS on the Reservation as a whole (Topper, 1979, p. 16). The residents of the FJUA remaining to be relocated may be expected to have particular difficulties in coping due to their traditional orientation, older age, lesser education, higher percentage of women, and low rates of wage employment (Scudder, 1979, p. 102). The stresses on these people can only be exacerbated by relocation to an area undergoing rapid population growth, and the result will be increased rates of physical and mental illnesses (Scudder, 1979, p. 102).

In summary, the draft documents (NMGS EIS, SJRRCEIS, and Cumulative Overview) do not adequately address the health-related issues associated with energy development in the San Juan Basin. That the effects of energy development on health are of concern to local residents has been documented in public hearing testimony by local residents, chapter resolutions, and interviews conducted in several studies (Schoepfle, 1981; Scudder, 1979; Topper, 1979; Rogers, 1982). Anxiety concerning adverse consequences on health may in itself be a significant factor worthy of consideration, especially in an area which has already experienced the legacy of uranium mining and milling activities, such as increased rates of lung cancer among former miners and the LNC tailings spill. Perhaps the most important point to emphasize is that the disruption of the relationship of the Navajo people to their land holds the clear potential of resulting in deterioration of mental and physical health beyond what would be attributable to the physiologic effects of environmental contaminants due to energy development.

Sincerely,

Kate Bradley
Kate Bradley
Senior Health Planner
NAVAJO HEALTH SYSTEMS AGENCY

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UTAH COLO
ARIZ N MCITY OF FARMINGTON, NEW MEXICO
OFFICE OF THE MAYOR
505 / 327-7700
505 / 327-7711

April 5, 1983

Bureau of Land Management
New Mexico State Office
Public Affairs Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Gentlemen:

City staff has reviewed the Environmental Impact Statements for the Regional Coal Leasing, New Mexico Generating Station, and the Proposed Wilderness Areas, and has discussed the matters briefly with myself and the City Council.

Our concerns of course focus primarily on the socio-economic impacts of the proposed projects.

We view the construction of the proposed generating station, and development of coal reserves as important sources of new jobs in San Juan County; and further believe that we are in an excellent position to provide many of the urban services that the new population, expected to reside in Farmington as a result of the projects, will require.

We recognize the value of the paleontological and archeological resources of the basin and agree that in some instances special steps, such as the designation of Wilderness Areas, may be necessary in order to preserve these values. We therefore support the designation of Bisti and De-na-zin Wilderness Areas, and the designation of An-sha-ah-rah Wilderness Study Area as a non-wilderness, as proposed by the BLM.

We believe that with careful planning, the goals of energy development, and preservation cultural and paleontological resources can both be achieved.

Sincerely,

Dee Montano
Mayor

DJN/HDS:bd

PC BOX 900 8740

ENLC-MAR-002-82

RESOLUTION OF THE
EASTERN NAVAJO LAND COMMISSION
OF THE NAVAJO TRIBAL COUNCIL

Declaring the Policy of the Eastern Navajo Land Commission of the Navajo Tribal Council Concerning Federal Coal Development in the San Juan Region which encompasses vast areas of the Navajo Land.

WHEREAS:

1. History records the inhabitation by ancestral Navajos in the Mount Taylor area as early as the year 1582, a full four hundred years ago, and, to this date, Navajos continue to inhabit areas of northwest New Mexico known as the "Checkerboard Area" or the Eastern Navajo Agency where the Federal Government is pursuing energy development without fully recognizing the concerns and unique ownership dilemma of the Navajo people living in these areas; and
2. The Navajo Nation and, in many instances, the Federal Government recognize lands inhabited mainly by Indians as "Indian Country", as virtually all of the lands in that sparsely area are occupied by the Navajo people, whether the land be trust ownership, Individual Indian Allotment, state lease land or use rights through the so-called "Cooperative Agreements"; and
3. The 1980 Census shows a total of 62,932 Indians living in McKinley, San Juan, Sandoval and Cibola Counties, of which at least 41,000 are Navajos whose concerns must be recognized and seriously considered in all development undertakings; and
4. Although the Navajo Nation as a whole is not opposed to energy development and thus routinely encourages all such developments which may be of economic benefit to the Navajo people, the Eastern Navajo Land Commission, which must gather its direction from the people most impacted by such development, must reflect the position expressed to it by the 31 Chapters of the Eastern Navajo Agency; and that position is simply that they are adamantly opposed to any further energy development on their lands until their concerns are recognized and are given serious as well as just consideration, and are resolved or justly stipulated on the basis of merit.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Eastern Navajo Land Commission hereby declares its policy that the Federal Government, the Bureau of Land Management most in particular, amend its currently prevailing rules and regulations and recognize and treat Navajo people claiming rights to lands now subject to Federal Coal Development as qualified surface owners regardless of previously extant practices and regardless of subsurface mineral rights; and

2. Moreover, the Commission proclaims that once the Bureau of Land Management and the Secretary of Interior have formally recognized and acceded to the historical rights and entitlement by way of ancestral homelands of the Navajo people within said Indian Country, then the Navajo people, the Commission inclusive, will be in a better position to work cooperatively with the Bureau of Land Management in achieving desired development of Federal Coal Reserves underlying the Eastern Navajo Agency or the area more commonly referred to as the "Checkerboard Area".

C-E-R-T-I-F-I-C-A-T-I-O-N

I hereby certify that the foregoing resolution was duly considered by the Eastern Navajo Land Commission at a duly called meeting at Crownpoint, Navajo Nation (New Mexico), at which a quorum was present and that same was passed by a vote of 4 in favor and 0 opposed, this 2nd day of March, 1982.

Raymond L. Lancer
Presiding Chairman,
Eastern Navajo Land Commission

Motion: Raymond L. Lancer
Second: Hoskie Largo

RESOLUTION OF THE
EASTERN NAVAJO LAND COMMISSION
OF THE NAVAJO TRIBAL COUNCIL

Supporting Resolution No. ENC-FEB-82-2 of the Eastern Navajo Council requesting an amendment to the Surface Mining Control and Reclamation Act of 1977 to provide for a more appropriate definition of "Qualified Surface Owners".

WHEREAS:

1. The Navajo Tribal Council established by Resolution No. CF-2-80 the Eastern Navajo Land Commission as a Commission of the Navajo Tribal Council with general responsibilities to monitor and make recommendations relating to uses of Tribal lands in the Eastern Navajo Agency, and, more recently, matters related to Navajo Tribal land exchange, acquisition, consolidation and selection; and
2. The Eastern Navajo Land Commission, by its resolution numbered ENLC-MAR-002-82, officially declared its policy concerning Federal Coal Development in the San Juan Basin Region which encompasses vast areas of Navajoland over which the Commission exercises responsibility; and
3. The Eastern Navajo Land Commission is in agreement with Resolution No. ENC-FEB-82-2 of the Eastern Navajo Council requesting an amendment of the Surface Mining Control and Reclamation Act of 1977, so that a more appropriate and equitable definition of "Qualified Surface Owner" is provided for, as the Commission is concerned that Navajo individual and tribal land surface ownership interests should be protected as was intended by said Act, but is not due to criteria or elements currently being used to define "Qualified Surface Owner" with respect to federal coal development in the San Juan Basin Region; and
4. With intensified interest in development of federally-owned coal which underline Individual Indian Allotments and Navajo Tribal lands, the Commission deems that it would be in the best interest of all Navajo surface land ownership to obtain the requested change of provisions in the Surface Mining Control and Reclamation Act of 1977.

NOW THEREFORE BE IT RESOLVED THAT:

RESOLUTION OF THE
EASTERN NAVAJO LAND COMMISSION
OF THE NAVAJO TRIBAL COUNCIL

Recommending that certain conditions and requirements be added to and incorporated with the authority, policy, and scope determining criteria for assessing lands unsuitable for all methods of coal mining pursuant to 43 C.F.R. Subpart 3461.

WHEREAS:

1. The Eastern Navajo Land Commission was established by Navajo Tribal Council Resolution CF-2-80 as a Commission of the Navajo Tribal Council with mitigation of the impact of energy development in the Eastern Navajo Agency as one of its major purposes; and
2. The Eastern Navajo Land Commission declared its policy concerning coal development in the San Juan Basin Region by Resolution No. ENLC-MAR-002-82, and thereby firmly opposed any further coal, or related developments in the San Juan Basin Region without just consideration for Navajo landowners and residents therein; and
3. On July 15, 1982, the Eastern Navajo Land Commission unanimously enacted its opposition to efforts of the Bureau of Land Management to withdraw land for the proposed Ute Mountain Land Exchange and the New Mexico Generating Station from lands already selected by the Navajo Tribe and the Federal Government and Relocation Commission for the relocation of the Navajo people from the former Joint Use Area; and
4. The Eastern Navajo Land Commission has officially reasserted its support of all current efforts opposing actions or developments adverse to Navajo welfare and land interests, as, for example; the proposed land withdrawal by the Bureau of Land Management announced in 47 Federal Register 9290; and
5. The Eastern Navajo Land Commission, has taken a "No Action Alternative" position with respect to the proposed construction of a power plant, power line, deep water wells, transportation of water from the San Juan river and all other developments which may adversely impact the area of immediate interest to the Navajo people; and
6. Currently the Bureau of Land Management is proposing to review and approve the twenty three (23) Preference Rights Lease Applications, imposing a final showing of required information by applicants pursuant to the twenty (20) criteria provided for in 43 C.F.R. 3461; and
7. The Eastern Navajo Land Commission is convinced that the criteria for assessing lands unsuitable for coal mining pursuant to 43 C.F.R. Subpart 3461 do not serve the best interest of the Navajo people in that:

1. The Eastern Navajo Land Commission hereby officially submits its support of the request by the Eastern Navajo Council for an amendment to the Surface Mining Control and Reclamation Act of 1977, whereby definition of the term "qualified surface owner" will mean protection of all bonified Indian Allotment and tribal land interests.

2. The Eastern Navajo Land Commission further supports appeal by the Eastern Navajo Council to the Navajo Tribal Administration and the Bureau of Indian Affairs for their assistance with timely fulfillment of this important request.

C-E-K-F-I-F-I-C-A-T-I-O-N

I hereby certify that the foregoing resolution was duly considered by the Eastern Navajo Land Commission at a duly called meeting at Crownpoint, Navajo Nation (New Mexico), at which a quorum was present and that same was passed by a vote of 5 in favor and 0 opposed, this 19th day of April, 1982.

Frank Chee Willetto
Presiding Chairman,
Eastern Navajo Land Commission

Motion: Johnny R. Thompson

Second: Hoskie Largo

a. They do not assure compliance with the American Indian Religious Freedom Act as they are, as they allow the Bureau of Land Management to superficially and inappropriately regard and treat religious concerns of the Native Americans. The American Indian Religious Freedom Act (42 U.S.C. 996) is an existing law which should take precedence over said provisions or should be incorporated therein; and

b. They do not provide for viable alternatives, such as scientific studies in the PRIA area, which may be of benefit to the Native Americans who have long upheld prior use rights on the lands in question. The "Savory Grazing Method" and other contemporary innovations are positively implicated, but the existing provisions do not address alternatives which also could be of general benefit to other land users throughout the world at large; and

c. They do not even allude to the Uniform Relocation Assistance Act, an existing law which could guarantee certain basic protection measures for the Native Americans who will have to be relocated as preparations are made for mining on their lands. The absence of the Uniform Relocation Assistance (42 USC § 4601-4655) Act as authority substantiating subject criteria as it is seems to justify BIM's refusal or failure to address the issue of need for land or alternative places where the impacted or uprooted Native Americans will be relocated. Instead, it has been verbally argued that such is a responsibility of the Bureau of Indian Affairs, but such argumentation is moot in that it is not an answer within purview of 42 USC § 4601-4655 wherein it is clearly provided that addressing the concerns of all federally relocated subjects is a federal responsibility and said authority does not exempt any Bureau from such responsibility; and

d. They do not provide for allocation or assurance of funds by the federal government or energy companies to defray costs to be incurred in compliance with criteria for assessing lands unsuitable for mining pursuant to 43 C.F.R. Subpart 3461.

VI. THEREFORE, BE IT RESOLVED THAT:


1. The Eastern Navajo Land Commission hereby recommends that the American Indian Religious Freedom Act (42 U.S.C. § 996) and Uniform Relocation Assistance (42 U.S.C. § 4601-4655) Act be added to and fully incorporated with the provisions of 43 C.F.R. Subpart 3461 so that the religious concerns of the Navajo people can be more seriously regarded and addressed, and so that all of the concerns of the relocatees or potential relocatees can be more humanely treated and resolved; and

2. The Eastern Navajo Land Commission also recommends that viable alternatives, such as scientific studies, be allocated land and funds for implementation in the PRIA area. Contemporary innovations, i.e. "Savory Grazing Method" and other land and water use alternatives, are incorporated with this recommendation by the Commission; and

3. Most importantly, the Eastern Navajo Land Commission recommends that provisions be made in 43 C.F.R. Subpart 3461 whereby funding by the Federal Government and energy companies will be provided for adequate, appropriate, and full compliance with criteria set forth in said provision plus additional provisions recommended herein.

C E R T I F I C A T I O N

I hereby certify that the foregoing resolution was duly considered by the Eastern Navajo Land Commission at a duly called meeting in Crownpoint, New Mexico at which a quorum was present and that same was passed by a vote of 6 in favor and 0 opposed, this 31st day of August, 1982.


 Presiding Chairman
 Eastern Navajo Land Commission

MOTION: Raymond L. Lancer

SECOND: Hoskie Largo

RESOLUTION OF THE
 EASTERN NAVAJO LAND COMMISSION
 OF THE NAVAJO TRIBAL COUNCIL

Recommending that the Navajo Tribal Council adopt the Eastern Navajo Land Commission's position mandating a "No Action Alternative" with respect to the proposed construction of a Generating Station within the exterior boundaries of Executive Order 709

WHEREAS:

1. Navajo Tribal Council Resolution No. CF-2-80 established the Eastern Navajo Land Commission as a Commission of the Navajo Tribal Council with general responsibility to monitor and make recommendations relating to use of tribal land in the Eastern Navajo Agency, and, more recently, matters related to Navajo land exchange, acquisition, consolidation and selection; and
2. By Executive Order 709, dated 11/09/07, President Theodore Roosevelt added to the Navajo Indian Reservation land which encompasses the area that the Bureau of Land Management proposes to withdraw as a site for the proposed New Mexico Generating Plant; and
3. The Eastern Navajo Land Commission declared its policy concerning coal development in the San Juan Basin Region by Resolution No. ENLC-MAR-002-82, and thereby firmly opposed any further coal, or related developments in the San Juan Basin Region without just consideration for Navajo landowners and residents therein; and
4. On July 15, 1982, the Eastern Navajo Land Commission unanimously enacted its opposition to efforts of the Bureau of Land Management to withdraw land for the proposed Ute Mountain Exchange and the New Mexico Generating Station from lands already selected by the Navajo Tribe and the Federal Government own relocation Commission for the relocation of Navajo people from the former Joint Use Area; and
5. The Eastern Navajo Land Commission has officially reasserted its support of all current efforts opposing actions or developments adverse to Navajo welfare and land interests, as, for example: the proposed land withdrawal by the Bureau of Land Management announced in 47 Federal Register 9290; and
6. The Eastern Navajo Land Commission, moreover, has reviewed parts of the draft of the Environmental Impact Statement for the New Mexico Generating Station, and, as a result, formally agreed upon a "No Action Alternative" with respect to the proposed construction of a power plant, power line, deep water wells,

transportation of water from the San Juan river and other allied developments which may adversely impact the area of immediate interest to the Navajo people; and

7. The decision of the Eastern Navajo Land Commission is further based on the following:

- a. The Commission's contention that Executive Order 709 is still valid and, if the proposed power plant is to be located within the boundaries of "709", there is definitely a question of jurisdiction; and
- b. The Commission further contends that, with the Navajo Tribe's water rights suit still in litigation, there should be an automatic stay of all developments surrounding the proposed generating plant and all allied activities; and
- c. Said withdrawal of land for the proposed generating plant without prior consultation constitutes a breach of the "Cooperative Agreement" wherein the Bureau of Land Management, Bureau of Indian Affairs, and the Navajo Tribe are signatory parties supporting Navajo land concerns. Furthermore, said proposed withdrawal of land by BLM for a generating plant is not consistent with the terms of the "Cooperative Agreement" in that it will not serve Navajo interests nor will the immediate public interest (which is predominantly Navajo) be served by the proposed plant; and
- d. Moreover, the proposed withdrawal of land by BLM for a generating plant in the Paragon Ranch is not only without statutory or regulatory authority. It is also contradictory to selection of the Paragon Ranch by the Navajo Tribe for Navajo relocatees pursuant to the Navajo-Hopi Land Settlement Act. Navajo application therefore takes precedence over requests without equivalent authority; and
- e. The initial criteria for the selection of the site for the power plant have changed and thus not only have time lines been altered, but the main justification for the originally selected site now stands nullified; and
- f. Through public hearings and other means the Commission is aware that the predominant sentiment expressed by the people to be impacted by proposed power plant has been and continues to be that they sincerely do not want the proposed power plant in their midst, and it is the Commission's own mandate that it gather direction from its people most directly impacted by developments from without.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Eastern Navajo Land Commission hereby declares its firm position mandating a "No Action Alternative" with respect to the proposed construction of a Generating Station within the exterior boundaries of the Navajo Indian Reservation as established by Executive Order "709".
2. The Eastern Navajo Land Commission also recommends that the Navajo Tribal Council adopt the Eastern Navajo Land Commission's position mandating a "No Action Alternative" with respect to the proposed construction of a generating station within the exterior boundaries of Executive Order 709.
3. The Eastern Navajo Land Commission further reasserts its opposition to any attempts by the Bureau of Land Management to withdraw land for the proposed Ute Mountain Exchange from lands already selected by the Navajo Tribe for federally ordered relocation purposes and further oppose all other federal action with regard to the subject land until the Department of Interior fulfills its fiduciary responsibilities as set forth in 25-U.S.C. 640d-10.

Moreover, the Eastern Navajo Land Commission reaffirms its commitment to assist Navajo relocatees wherever possible, and also declares its support of all current efforts opposing action or developments adverse and contrary to Navajo welfare and land interests.

C-E-R-T-I-F-I-C-A-T-I-O-N

I hereby certify that the foregoing resolution was duly considered by the Eastern Navajo Land Commission at a duly called meeting in Crownpoint, New Mexico at which a quorum was present and that same was passed by a vote of 6 in favor and 0 opposed, this 31st day of August, 1982.


 Presiding Chairman,
 Eastern Navajo Land Commission

MOTION: Frank C. Willetto

SECOND: Raymond L. Lancer

RESOLUTION OF HUERFANO CHAPTER

Opposing Coal Mining, Generating Station,
and Sub-Division in Bisti Areas

HUEFAS: The Huerfano Chapter and the Community, along with other Eastern Navajo Chapters are expressing their deep concerns for the possible development of Coal Mining, Power Plant and Sub-Division in Bisti and De-na-Zin Areas.

It appears to the Huerfano Chapter and the Community, that the beginning of strip mining will only destroy all living plants, ruin the soil, ruin fertilization and whatever little water there is, and it will come to where there would not be any vegetation left for any animals to survive on. Without the above mentioned, how will the allottees survive, how will they provide food for themselves. The residents in the Bisti and De-na-Zin Areas are very much depended on their livestock for food and other necessities.

It also appears, that the relocation of residents in that area will cause extreme hardship on them, as they, for many years, have been living on their allotments and whatever the land produces have become part of their everyday living and their everyday happiness.

It is ashamed that some aggressive individual would want to destroy another individual's happiness, just so that he can get what he wants and leave nothing for the other human to survive on.

Yes, the concerned citizen of Huerfano Chapter do not believe in taking another individual's livelihood and happy environment just to satisfy our aggression.

NOW WHEREFORE BE IT RESOLVED THAT: The Huerfano Chapter in cooperation with the other Eastern Navajo Chapters have expressed their concern for the residents of Bisti and De-na-Zin Areas and have opposed the future development of Strip Mining, Power Plant and Sub-Division in Bisti Areas.

AP, HEREBY CERTIFY THAT THE FOREGOING RESOLUTION was duly considered at the Huerfano Chapter meeting and was voted for adoption by Thomas Yazzie, Seconded by Polyan Charley, and same was passed the vote of 47 in favor & opposed on 03, 11, of January, 1993.

Chuck G. W. L.
Chapter President

Charles Martinez
Chapter Secretary

Chapter Vice-President

Council Delegate

CO. BY:
D. A. C. Charley, Jr.
D. A. C. Charley, Jr.
D. A. C. Charley, Jr.

a considerable period of time beyond the current expiration date of Utah International's contract with the Bureau of Reclamation, and neither the Generating Station DEIS nor the supporting technical reports deal adequately with the question of the availability of San Juan River water after 2005. Reports of the Bureau of Reclamation and the New Mexico State Engineer indicate that there will be no surplus water available for mining or the generating station after about the year 2030. It is our understanding that the on-line date for Unit 1 of the NMGS has been delayed until 1995. Unit 4 of the NMGS would apparently go on line about 2007. Even without additional delays, the 40 year operational life of the plant would necessitate water beyond 2040, and the most optimistic projections on the Bureau of Reclamation and the State Engineer's Office indicate that there will be no water available at that time for these purposes.

It is apparent from the DEIS for the proposed NMGS that use of surface water would pre-empt the Tribe's rights to Navajo River water as that stream is a tributary of the San Juan, and that the groundwater pumping alternative would impair the supply of groundwater on the reservation lands, particularly in the south where the Tribe is anticipating a major agricultural development. According to data presented in the hydrology technical report, groundwater pumping for the proposed power plant would lower the potentiometric surface of the Westwater Canyon Member, the Dakota Sandstone, and the Entrada Sandstone aquifers sufficiently to render them uneconomical as sources of water on much of our reservation. This drawdown may also reduce the flow of springs on our lands whose source is in the Dakota Sandstone. Because of leakage along faults and structural features crossing aquifer boundaries, the Tribe is concerned that the large drawdowns envisioned under the proposed actions might also adversely impact wells tapping formations stratigraphically above the Westwater Canyon Member aquifer, another point not addressed in the draft documents.

Your map on page 3-29 of the Generating Station DEIS showing the effects of water supply alternative 1 (groundwater pumping) indicates that a substantial drawdown of groundwater will occur over practically the entire Jicarilla Apache Reservation. It is stated (p. 3-28) that the duration of significant impacts on groundwater users from the Westwater Canyon Member, Dakota Sandstone, and Entrada Sandstone could last 150 years or more after pumping from the NMGS well field stops. In other words, under NMGS water supply alternative 1, our reservation could be experiencing significant groundwater impacts until nearly the year 2200, a totally unacceptable situation.

Moreover, on page III-2 of the NMGS document, you state that it is assumed that the possible new town will also be tapping the Westwater Canyon Member of the Morrison Formation for its water needs. Although no estimates of the possible water needs of that community are given, it would not be unreasonable to assume that they would be on the order of 1,700 acre feet per year based on average New Mexico water consumption of 0.15 acre foot per person per year for domestic purposes and a town population of 11,000. Thus if NMGS water supply alternative 1 is used and the new town is built, groundwater pumping would be 11% higher than indicated in the DEIS. This point was not even mentioned in your discussion of the cumulative impacts of the NMGS and the new town.

Similarly, you failed to discuss the cumulative impacts of NMGS water supply alternative 1 and the major coal mine development in the area.



THE JICARILLA APACHE TRIBE

P.O. BOX 801 • DULCE, NEW MEXICO 87828

4 March 1993

State Director
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

As President of the Jicarilla Apache Tribe, I appreciate this opportunity to comment on your agency's Draft San Juan Basin Cumulative Overview, Draft San Juan River Regional Coal Environmental Impact Statement, and Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town. As President of the Tribe, I have a number of concerns which, in our opinion, were not adequately addressed in the above documents or in the accompanying technical reports. Many of these concerns were brought to your attention at the scoping meeting held in Dulce on February 25, 1981. Our reservation will be directly and indirectly impacted by the proposed projects. Although the bulk of our population resides in Dulce, the southern half of our reservation is occupied and heavily used by our people. It is not just empty rangeland. We believe that the impacts on the Jicarilla Apache Reservation of the proposed actions were inadequately covered or not covered at all in the respects noted below:

WATER SOURCES

In the water supply system section of the DEIS for the proposed NMGS and possible new town, you stated on page 3-28 that use of the proposed water supply from Navajo Reservoir will deplete the flow in the San Juan River System in New Mexico by 35,000 acre feet per year. Alternative 1 water supply system proposes depletion of 20,000 acre feet per year from the San Juan River and 15,000 acre feet per year of groundwater. Public Service Company of New Mexico (PNM) presently has no contract with the Bureau of Reclamation for water supply from the San Juan River. The working assumption used is that PNM will be able to acquire at least 20,000 acre feet per year of water that is now under contract to Utah International. The validity of this contract is presently in litigation in the United States District Court, District of New Mexico in a suit filed by the Tribe.

In the event the position of the Tribe is upheld by the courts, the entire NMGS water supply problem will need to be reconsidered as all of the proposed alternatives envision the use of substantial quantities of water acquired through Utah International. Further, the proposed generating station will need water for



Specifically, the development of approximately 75,000 acres of federal coal under Preference Right Lease Applications was not included in either of the baselines used in modeling the predicted groundwater drawdown from NMGS water supply alternative 1. These 26 Preference Right Leases are included in the No Action Alternative of the Regional Coal DEIS. Plate 1 of that document indicates projected drawdowns of as much as 600 feet in the Westwater Canyon Member of the Morrison Formation on the Jicarilla Apache Reservation and between 100 and 300 feet of drawdown in the Entrada Sandstone on the reservation under the No Action alternative. As noted on p. 3-9 of the Draft Environmental Assessment for Coal Preference Right Leasing and p. 1-4 of the Regional Coal DEIS, groundwater withdrawal for mining operations, dust suppression, coal washing, and reclamation of the PRLA lands, will be on the order of 13,000 acre feet per year or about 86% of that required for the NMGS under water supply alternative 1. Failure to discuss the cumulative effects of withdrawals of this magnitude (the Preference Right Leases and the new town together) will require as much groundwater as the NMGS is completely unacceptable.

Additional cumulative water supply impacts inadequately discussed include those resulting from future mining of private, state, and Indian coal. Although not all of this coal has yet been leased, much of it may be mined within the time frame contemplated by these studies. We feel that the water needed to mine this coal should have been included in your analyses to set an upper bound for modeling groundwater depletions.

In your discussion of legal constraints on the use of groundwater in the region, it is stated on page 2-21 of the Regional Coal DEIS that the use is administered by the New Mexico State Engineer, and that once an area has been designated as an underground water basin, permits must be obtained from the State Engineer before groundwater may be appropriated. Groundwater depletion from Indian reservation lands, over which the State Engineer has no jurisdiction, is not treated. There is no discussion of the legal constraints involved in depleting groundwater on the Jicarilla Apache Reservation or other Indian lands by the NMGS, the possible new town, or the projected coal mines.

Another question of great importance to us is the impact such massive dewatering might have on the production of oil from wells in the Dakota and Entrada sandstones. The Dakota is becoming an increasingly important producing interval on our Reservation and elsewhere in the San Juan Basin. Entrada fields, while small, are also attractive production targets. If the dewatering process adversely affects oil production (for example by eliminating a driving mechanism or by reducing the effectiveness of geologic traps) important hydrocarbon resources will be lost, not only on the Jicarilla Apache Reservation, but also on federal, state, and private lands. Your analyses do not even touch upon this matter.

AIR QUALITY

Our concerns about air quality are several-fold. We fear that chronic exposure to pollutants released by the generating station will adversely affect the productivity of our forest and range resources even though the levels of those pollutants may be below state and national standards. Indian ricegrass, which has been shown to be sensitive to air pollution injury, is an important forage plant on our Reservation. Other important forage plants on our lands

may be similarly sensitive. Wood and needle production in ponderosa pines, particularly young ones, are known to be adversely affected by airborne acids and ozone. Not only is that species our principal forest tree, but we are currently engaged in a massive program of tree planting to improve our timber stands. Prior to issuance of permits for the proposed developments, we recommend that studies be conducted to assess the effects of such chronic exposure on native forage plants.

Your discussion did not touch upon the possible health effects of chronic exposure to the pollutant levels predicted to occur on our lands. As noted in the attached letter from Dr. Zielinski and Mr. Williams, the incidence of allergic phenomena among our people is already above normal. For this reason, anything which might aggravate respiratory disorders among our people is of grave concern to us.

We are also concerned with the increase in regional haze which will result from operation of the generating station and related activities. Such haze will impair visibility from our Reservation. Because long, clear vistas are important in the Jicarilla Apache culture, we feel that such a reduction will be unacceptable. Another objectionable air quality effect of the proposed generating station will be the visibility of the plume. Because our Reservation is located between Chaco Canyon and the San Pedro Parks, it appears that we will be faced with plume visibility problems intermediate between the ones experienced at those two locations. Such visibility degradation is unacceptably high.

We are also concerned about possible secondary air quality impacts on our people. For example your analyses indicate that acid precipitation and acid dry deposition may be sufficient to acidify some lakes in the high mountains of southern Colorado. Because the Dulce community water supply is dependent on the runoff from those mountains, we are concerned about possible adverse health effects on our people if the pH of the lakes and streams is lowered to the point that heavy metals or other harmful substances are leached into our water supply.

TRAFFIC

Also inadequately addressed were the impacts associated with traffic generated on New Mexico 44 and other roads across our lands as the increased population generated by the proposed developments travels from the Farmington area to Albuquerque and to such recreation sites as Heron and El Vado lakes. The draft documents and accompanying technical reports discussed traffic generation along Highway 44 from Nageezi northward and from Cuba southward, but did not cover the intervening stretch. That portion of the road crosses our land and will also have to handle an increased traffic flow as people and goods move between Albuquerque and the Four Corners area. Highway 64 across our Reservation will also be faced with an additional traffic burden as it is the most direct route from Farmington to such recreation areas as Chama and Heron Lake. This is of particular concern as that road passes through Dulce and is not in the best condition.

ENDANGERED SPECIES

Your discussion of impacts on endangered species is inadequate, particularly as it was limited to narrowly defined geographic areas. Our Reservation

supports several protected species including bald and golden eagles, and peregrine falcons which we fear may suffer if the proposed actions are undertaken. The adverse effects will not be a direct result of construction activities but rather will occur as the increased population these activities bring to the area encroaches upon the animals' habitats. We are also concerned that your studies failed to adequately address area-wide impacts on such species from chronic exposure to pollutants generated by the proposed projects. Such exposure may be either direct or indirect through the food chain or habitat reduction.

SOCIO-ECONOMIC IMPACT

In the area of socio-economic impacts, we are concerned about the pressure that the increased population will place on the local recreational resources, particularly those on our lands. We are also concerned that the new population will damage our lands and resources through such activities as unauthorized wood gathering, off road vehicle use, poaching, disturbance of archeological sites, and livestock theft. We currently lack the financial and law enforcement resources to adequately protect our lands from such depredations. To handle these additional problems may require us to build a permanent police station in the southern portion of our Reservation and to increase our law enforcement staff by 25% or more. Even then our lands and property may not be adequately protected because of jurisdictional questions relating to non-Indians on Indian lands.

Another potentially major economic impact of the increased population and traffic on our lands is increased damage to oil and gas well equipment and increased thefts of oil and condensate from storage tanks on well locations. As oil and gas production is our major source of income, such damage and theft could seriously impair our ability to provide for our people.

We are also concerned that the increased population will drive up prices in Farmington, our major shopping area, to the extent that it would adversely affect the buying power of our people. Moreover, as the new population will further strain the already overloaded social service facilities in Farmington, it will be detrimental to such of our people as make use of those facilities. Increased traffic across our lands as a result of the population increase will also increase the likelihood of accidents involving our people and their livestock. Such impacts are hardly "negligible" as characterized in your technical report or social and economic conditions.

SUMMARY

To summarize these comments, our major concerns are water supply and water and air quality. Other impacts may possibly be mitigated. Water supply impacts may not. The treatment of water supply problems in the NMGS and Regional Coal draft impact statements is legally insufficient in our view, in that it does not address at all the cumulative effects of proposed coal mining, the NMGS, and the possible new town. The Tribe cannot stand by and permit its surface and groundwater resources to be depleted.

Again, we appreciate the opportunity to comment on your draft studies and we sincerely hope that you will respond to our concerns with the seriousness with which they are tendered.

Yours truly,
Leonard Atole
Vice President
Leonard Atole
President



NAME: WILLO
CO: JICARILLA

THE NAVAJO NATION

14 10 25 PUEBLO PINTADO CHAPTER - DISTRICT 15

STATE OF NEW MEXICO

EASTERN NAVAJO THE NAVAJO TRIBE OF INDIANS

RESOLUTION OF THE PUEBLO PINTADO CHAPTER

TO: STATE DEPARTMENT
U.S. Bureau of Land Management
New Mexico State Office
P.O. Box 1400
Santa Fe, New Mexico 87501

SUBJECT: Reconsiderations and concerns of the people of this chapter concerning the coal mining in the San Juan Basin area.

WHEREAS:

- we are concerned that the recent series of Draft Environmental Impact Statements released by the U.S. Bureau of Land Management on the San Juan Basin do not:
 - show where the up to 3000 Navajos who may be forced off their land will go or be relocated to;
 - show that a higher percentage of the jobs will go to the people living within the area where unemployment is seriously high;
 - offer evidence that the land of this arid region can be effectively reclaimed to its former status;
 - show that there is enough water available for both current use and the proposed development;
 - show that the coal is in fact needed by the nation or the state of New Mexico;
 - show or is an adequate study on the potential impacts on the Navajos.

NOW THEREFORE, BE IT RESOLVED THAT:

- It is recommended by this chapter that the above-listed matters be examined more fully before any final action is taken by the Bureau of Land Management.

CERTIFICATION

we hereby certify that the foregoing RESOLUTION was thoroughly discussed and voted for approval by Bert Dineen, seconded by Arvin Sandeal, and the same was approved by a vote of 43 in favor and 0 opposed, at a regularly called chapter meeting held at Pueblo Pintado Chapter on the 6th day of March 1983.

Bert Dineen
President
Arvin Sandeal
Council Delegates

Arvin Sandeal
Vice President
Arvin Sandeal
Secretary

RESOLUTION OF THE
PRIMITIVA/NAKA CHAPTER
THE NAVAJO TRIBE

RECEIVED

FEB 25 1983

U.S. DEPT. OF
THE INTERIOR

TO: STATE DIRECTOR
U.S. Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

SUBJECT: Recommendations and concerns of the people of this chapter concerning the coal mining in the San Juan Basin area.

WHEREAS,

1. We are concerned that the recent series of Draft Environmental Impact Statements released by the U.S. Bureau of Land Management on the San Juan basin do not:
 - a. show where the up to 3000 Navajos who may be forced off their land will go or be relocated to;
 - b. show that a higher percentage of the jobs will go to the people living within the area where unemployment is seriously high;
 - c. offer evidence that the land of this arid region can be effectively reclaimed to its former status;
 - d. show that there is enough water available for both current use and the proposed development;
 - e. show that the coal is in fact needed by the nation or the state of New Mexico; and,
 - f. show or is an adequate study on the potential impacts on the Navajos.

THEREFORE, BE IT RESOLVED THAT:

1. It is recommended by this chapter that the above-listed matters be examined more fully before any final action is taken by the Bureau of Land Management.

C-E-R-T-I-F-I-C-A-T-I-O-N

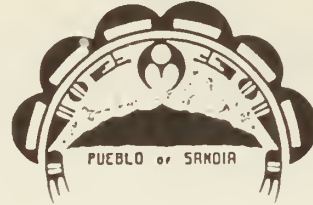
WE HEREBY CERTIFY THAT THE FOREGOING RESOLUTION was thoroughly discussed and moved for approval by Marlin Martinez, seconded by Johnson Verle, and the same was approved by a vote of 10 in favor and 0 opposed, at a regularly called chapter meeting held at NAKA chapter, this 11th day of February, 1983.

Marlin Martinez
Chapter President

Johnson Verle
Chapter Vice-President

Don Henderson
Council Delegate

Don Henderson
Chapter Secretary



P.O. Box 608
Bernalillo, New Mexico 87004
(505) 867-2876/5021

March 30, 1983

BERNARDINO TRUJILLO
Governor
DOMINGO MONTAÑA
Lt. Governor
JOSE R. TRUJILLO
Treasurer

Mr. Charles W. Luscher
State Director (934A)
Bureau of Land Management
New Mexico State Office
P. O. Box 1449
Santa Fe, New Mexico 87501

Re: Proposed New Mexico Generating Station

Dear Mr. Luscher:

We have reviewed the Draft Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town, and we offer the following comments for your consideration:

The Rio Puerco substation and the most northern of the proposed powerline corridors lie just to the south and west of an area known to us as "La Ceja." This area is of great religious and cultural significance to the members of the Pueblo of Sandia, and on previous occasions the Pueblo has notified the Federal Government of its interest in the La Ceja area. Under the provisions of P.L. 95-341, the Native American Religious Freedom Act, Sandia Pueblo identified the La Ceja area to the Native American Religious Freedom Committee by a letter dated August 8, 1979, from Governor Inez Baca to Mr. Paul Bernal of the All Indian Pueblo Council. A copy of that letter is attached for your perusal.

We are concerned that the proposed development near the La Ceja area will have an adverse effect upon the Pueblo's religious and cultural activities, and we strongly urge that PNM's proposed development not be allowed to impact the La Ceja area. In particular, we would oppose the building of any access roads or other construction-related activities to the north and east of the above-referenced powerline corridors.

Sincerely,

Bernardino Trujillo
Bernardino Trujillo,
Governor

BT/KB
Enclosure



THE NAVAJO NATION
WINDOW ROCK NAVAJO NATION (ARIZONA) 86515

PETERSON ZAH
CHAIRMAN NAVAJO TRIBAL COUNCIL
EDWARD T. BEGAY
VICE CHAIRMAN NAVAJO TRIBAL COUNCIL

April 06, 1983

Mr. Charles W. Luscher
State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501

Subject: Issues and comments of the Navajo Tribe relative to the three draft environmental impact statements on the BLM proposals, i.e., San Juan River Regional Coal Leasing; Proposed New Mexico Generating Station and Possible New Town; proposed wilderness areas (Bisti, De-Na-Zin and Ah-Shi-Sle-Pah); and the Draft San Juan Basin Cumulative Overview Report.

Dear Mr. Luscher:

The enclosed report summarizes the concerns and comments of the Navajo Tribe. The tribe has serious and grave reservations concerning the proposed activities in the San Juan Basin. BLM lacks the legal right to enter into competitive and non-competitive leasing of the lands. The draft EIS documents do not admit what seems to be the reality by underestimating the actual impact the proposed activities would have on the land forms, Navajo residents and lifestyle, cultural and other resources. It is urged that our concerns and demands be properly addressed in the final EIS.

We appreciate this opportunity to review and comment on the various documents and look forward to hearing BLM response to our comments.

Sincerely,

THE NAVAJO NATION

Peter Zah
Peterson Zah, Chairman
Navajo Tribal Council

msh

Enclosure

COMMENTS ON BLM'S SAN JUAN BASIN
ACTION PLAN

Submitted By: NAVAJO NATION

April 06, 1983
Window Rock, AZ 86515

Comments and Concerns of Mr. Harold Tso, Administrative Technical Staff Assistant and the following staff of the Division of Resources are hereby acknowledged.

Jerry Elwood, Director, Eastern Land Commission

Allen Nez, Land Claims Adjudicator, Eastern Navajo Land Commission

Leonard Robbins, Director, Navajo Coal Commission

Arlene Luther, Environmental Specialist, Environmental Protection Commission

Louise Linkin, Director, Environmental Protection Commission

Ninibah Hufford, Planner I, Office of Navajo Land Development

Glen George, Director, Navajo Water Commission

Alfred Oehly, Acting Director, Office of Navajo Land Development

S. Deb Misra, Engineering Supervisor, Office of the Chief Engineer

Mahesh P. Thakur, Chief Engineer, Office of the Chief Engineer

John Antonio, Program Manager, Fish & Wildlife Department

The Navajo Nation hereby expresses its concerns with the inadequacies of all the environmental impact statements presented by the Bureau of Land Management (BLM).

This report summarizes the various comments and concerns of the members of the Navajo Task Force on San Juan basin federal action plan.

This also reflects the concerns of the Navajo people expressed at various BLM arranged hearings, open houses and through chapter resolutions and news media.

NAVAJO CONCERNS

The federal proposals will have both direct and indirect, as well as, positive and negative impacts on the local Navajo people and the environment. While mitigating measures would reduce or eliminate some of the negative environmental consequences, there still will be some unavoidable adverse impacts and some irreversible and irretrievable commitments of resources. Among the gains expansion of the regional economy, improvement in employment situation, urbanization of certain areas and recovery and utilization of energy minerals and other resources are very important. The Navajo Nation, as a whole, is not opposed to energy development in the (checkerboard) Indian land and encourages all such developments which may be economically and mutually beneficial to the Navajo people. The Tribe recognizes the importance of the mining and energy activities to the State's and Nation's economy. But there are several major problems, concerns and issues confronting the Navajo people which need to be addressed and resolved by BLM, the energy companies and the Navajo Nation, before it is possible for the Navajo Nation to participate in and cooperate with the federal action plans and give their consent to such actions. Once the federal government and/or the energy companies recognize these concerns and give them serious and due consideration it will be possible to make intelligent decisions that will ensure correct trade-off and balance between resource and energy utilization (along with added benefits) and environmental conservation or ecology. The various Navajo concerns, issues, demands and other general comments on the various BLM documents, regarding the proposed federal activities in the San Juan Basin, are addressed below.

1. Legal Issues - There are unresolved legal questions and litigation, such as:

(a) Navajo Nation's claim on the water right in the San Juan Basin, both surface and ground water. Mining, power generation and reclamation will need about 52,000 acre-ft. of water annually (not including the unknown requirement of water by a possible new town); Is there enough water and are the companies entitled to this water?

(b) Navajo people have declared that they are qualified surface owners in the area (as defined in 43CFR 3400.0-5, pp 1-3) where the development activities will take place. This includes trust land, fee land, PL-2198 land and land where the Navajos have state or

federal grazing leases. This land is their ancestral home where Navajos have been living for almost 400 years. BLM does not recognize this claim.

(c) The Navajo Nation has selected 35,000 acres of land of the Paragon Ranch for relocation from the former Navajo-Nopi Joint Use Area in the area proposed for the NMGS and on land designated for lease and sale by the BLM. This is in accordance with Public Law 95-306, the Navajo-Nopi Indian Relocation Amendments Act of 1980. BLM proposes to withdraw that public land, in exchange of private land in Ute Mountain area, so that PNM can construct the proposed New Mexico Generating Station there. The Navajo Nation considers this action of BLM to be without statutory or regulatory authority and that the Navajo Nation's selection of that land has precedence. There may also be an apparent conflict between Public Land order 2198, Executive Order 709 and 1000.

d) In the BLM documents, adherence to the underlying policies of the Uniform Relocation Assistance Act, the American Indian Religious Freedom Act and the Fifth Amendment to the U.S. Constitution is not assured and adequate regard or treatment under these laws is not given.

(e) the legality of issuance of certain PRLAs, where there are already known deposits of commercial quantities of coal present, is questionable since it refutes the intended purpose of PRLAs.

(f) legal justification for the need of the proposed power plant may be another issue.

(g) finally, there may be some legal problems associated with BLM's land exchange plans.

2. Socioeconomic Issues:

(a) relocation plan for the impacted Navajo families (estimated 125 families under preferred target alternative and 510 under the high leasing alternative, not actually counted, - both figures include families affected by preferential leasing also) is unclear and uncertain. According to BLM no surface owner consent is required for relocation before mine plans are formulated. It is unknown at this time where the relocatees will be moved, how and if they will be compensated for relocation, whether there will be enough grazing facilities for the livestock, whether they will have an opportunity to pursue a meaningful livelihood and Navajo lifestyle at the new locations and what kind of housing and other necessary facilities, services and assistance will be provided. Love for the clan land is very strong among the Navajos. They want to pass the land with its associated cultural and historic heritage to future generations. They feel that they will never be adequately compensated or will receive a dwelling of equal value. There will be a large impact on livestock grazing and availability of certain native plants and herbs they use for medicine or cultural purposes. Their lifestyle will be disrupted by mining activities, pollution,

sickness and impact due to the influx of non-Navajo workers into the community. They oppose the manner the grave sites and sacred sites will be relocated.

(b) it is the opinion of BLM and also the fear of the Navajos that most of the jobs created will be taken by non-Navajos who will move into the area. Nothing is mentioned in the BLM documents about Navajo preference in hiring and training of local Navajos to make them qualified for the positions created. Navajos believe that non-Navajo outsiders will be the only ones to benefit from the mining and energy activities.

(c) due to population growth (mostly influx of outsiders) housing, community services and infrastructure will fall short of demand. Crime, diseases, alcoholism will increase and the law and order situation will deteriorate and affect the peaceful Navajo way of life.

3. Reclamation, Revegetation and Land Use - No rational land use plan has been developed in the BLM documents. No estimate of grazing area which will be lost (also AUM loss) or impacted due to mining activities has been made. In addition, there are fundamental uncertainties about the success and time frames of reclamation and revegetation. In the arid west it is often, at best, a gamble with nature. Examples of Navajo and McKinley mines as successful reclamation sites do not assure that the same can be expected in the San Juan Basin because of different soil, climate and other conditions. Specific land management plans for restoring the soil productivity after reclamation, treatment of toxic material, saving of top soil and irrigation needs have not been discussed. It is not wise to fully depend on the coal companies and give them the full responsibility to develop and implement such plans. In case of underground mining specifics of surface subsidence control and guidelines have not been developed.

4. Water Availability and Use - Besides unresolved legal questions on water rights there is a serious doubt that 52,000 acre-feet of water (excluding the water needs of the possible new town) per year will be available for the mining and power generation needs after meeting the local domestic and livestock related demands. BLM assumptions and modeling technique regarding the groundwater yield and also water quality from aquifers may not be realistic. It has not been demonstrated that sufficient natural water will be available for use by residents during mining and post mining. In fact due to the large volume of water withdrawal planned the depleted deep aquifers may collapse and lose storage capacities resulting in permanent, irreversible and irretrievable damage to the valuable and scarce water resource. Water quality will also be degraded due to mining and power generation activities. The BLM documents do not contain a rational water management plan and plans of water replacement, treatment and any assurance that increased costs of pumping during mining and post mining, as a result of water level drop, will be borne by the companies.

5. Impact on Cultural, Paleontological and Archaeological Resources - Survey and inventory of historic places, grave sites, gathering areas, offering points, sacred sites, fossil reserves and other archaeological sites have not yet been completed and all the locations are not known. It is believed that approximately 250,000 cultural and archaeological sites spanning 10,000 years of occupation are present in this basin which include the famous Chacoan Phenomenon (some 70 scattered communities, remains of what is believed to be one of the most advanced prehistoric cultures in the United States), the Chaco Roads and the Chaco Culture National Historic Park. The fossil deposit of this basin cover the evolution of land animals through the critical period covering the extinction of dinosaurs and the first widespread propagation of mammals. The fossil resources have received worldwide attention while the three wilderness areas present in this basin contain certain geologic features noted for the mushroom-shaped rock formations, pinnacles and spires that create a "mooncape" appearance. Throughout the basin there are various herba which are used by Navajo medicine men for medical and religious purposes. The land is also used for sight-seeing, collecting, hiking, photography and other recreational purposes by tourists and local Navajo. Details of salvage, recovery and preservation plan, relocation of sacred and grave sites, mitigation plan, restoration plan, etc., have neither been worked out nor clearly defined. Whether this responsibility will be carried out is at the mercy of mining and energy companies who may not have much concern or regard for these resources and Navajo values. Cultural significance of certain special wildlife species and special interest plants has also not been mentioned in the BLM documents.
6. Air Quality - The magnitude of impact from dust, smog, sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, and other air pollutants from the power plant, exploration, mining, haulage and reclamation activities, automobiles and heavy equipment, etc., on the people, vegetation and wildlife is not fully known due to unknown factors. Cumulative impact study does not consider impacts due to other mining activities already present, proposed and existing railroads, oil and gas fields, other power plants and projects in the basin. Specific mitigative measures for various types of air pollution are not fully discussed in the documents. This is a superficial treatment of a major issue, upon which it is not possible to base any decision making.
7. Noise, Blasting Damages and Transportation Problems - The study, which is not complete and adequate, reveals that there will be some impacts on the people, livestock and wildlife, but, the impact is not quantified. Blasting vibration may also cause damage to the archaeological, fossil and other fragile resources. Significant overloading of NM 371 between Farmington and the NMGS site is anticipated. Mitigative measures are not discussed or inadequate and unclear and no lease stipulations have been developed to eliminate or minimize these problems. There is no way at present to economically transport the coal out of the San Juan Basin especially in view of the voiding of the I.C.C. Permit for the Star

without any significant improvement in the overall employment situation or the regional economy. On the other hand, the Navajos will bear all the adverse impacts and would benefit very little, if at all.

SUGGESTIONS AND RECOMMENDATIONS

- "Delay Action" should be considered as a viable alternative to the BLM proposals. This will allow sufficient time for the legal issues to be resolved; impact studies, surveys, inventory, etc., to be fairly completed (as the present study was a hurried job); adequate mitigation plans, relocation plan and stipulations to be developed; and the economy of the nation to be improved and stabilized.
- Certain coal tracts, where environmental impact is tremendous and the relocation problem is serious, should be dropped from lease sale.
- Scope of the "unsuitability criteria" should be expanded to account for the unique Navajo needs, beliefs, lifestyle and culture. So far, the bald eagle has ironically been paid more attention in comparison to the local Navajo residents.
- Communication with the Navajo Nation, its chapter houses and the local impacted residents has to be improved. This will facilitate solution of the complex land status and relocation problems in addition to enabling BLM and the energy companies to understand the Navajo needs and concerns and to get their full cooperation in the development activities. A programmatic Memorandum of Agreement between BLM, BIA, Navajo Tribe, State of New Mexico and National Park Service should be established to resolve and settle various common issues.
- All the environmental impact mitigation plans should be completely and rationally developed and stipulations outlined before the final showing by energy companies.
- Replacement of grazing resources should be addressed in detail and provided for, including the reclamation and revegetation of surface mined land within a specified time frame. This should be ensured by performance bond or insurance. In case of underground mining the companies should procure subsidence protection insurance.
- Water management, water use and water replacement plans must be developed prior to leasing or permitting and approved by the Navajo Nation in addition to NM State Engineer's Office.
- A program must be outlined before leasing to survey the locations and count, protect, preserve, salvage and restore all the fragile cultural resource in tribal museum, to provide buffer zones around sites and assure other relevant mitigative measures. It is neither practical nor economical to keep these works pending until mining activities are started and then rely on the coal companies. State

Lake Railroad by the U.S. Court of Appeals for the District of Columbia Circuit.

- Fish, Wildlife, Threatened and Endangered Species - All the lands have not yet been surveyed to determine the presence of and impacts on the various endangered species. The information that was provided does not adequately describe the baseline information Navajo Game & Fish does have limited information on several Threatened and Endangered Species that could be impacted. This information was not considered in the draft EIS or other documents. The assumption that fish and wildlife can in their lifetimes adapt to new surroundings and environment (fences, air pollution, mining, excavation, acid rain, powerlines, waterline, construction work, railroad, etc.) without much problem is questionable. Mitigative plans are not discussed in detail. In depth biological investigations should be conducted to determine the extent of all wildlife in the proposed impact area. Quantifiable information will then be available to determine impacts and to recommend appropriate mitigation measures.
- Non-Coal Resources - Exploration, recovery and/or conservation of resources such as natural gas, oil, alumina, titanium, sand and gravel, limestone, etc., have not been discussed. There is no plan what is to be done if these resources are encountered during mining activities.
- Visual Resources - Degradation of the scenic quality of the landscape and destruction of some unique geologic formations and wilderness areas will take place as a result of mining, power generation and associated activities and various right-of-ways. There is no commitment in the documents about if, how and when mitigations will take place.
- Actual Need for Coal and Power - During this recession the market condition for coal is poor. The coal companies have put a hold on their expansion plans, even some mines have stopped or reduced coal production. Competition is very strong. With the declining demands for coal, the resources in the Powder River will be adequate for this country's needs well into the next century. The projection for future demand of power by PNM is also not realistic - it is overstated. Under this situation, it is difficult to justify the need of the development activities at this time. The recovery of coal with present technology will be only 50% in a region like San Juan where it will be necessary to preserve and protect plentiful of cultural, archaeological and fossil resources and where the coal beds are thin and uneven. Success of reclamation is also an experimental matter. Under this soft market situation coal leasing will not bring a fair value. Without developing the coal and power market, haste in development of mining and energy activities will be an economical disaster until the economic and energy picture of the country changes. What the Navajos fear is that the coal companies will simply shift their operations to the San Juan basin, where the coal quality is better, without any increase in total coal production for the region and

and/or tribal permit will be necessary for the disposition of graves and sacred sites. All the requirements of state historic preservation office and the Navajo tribal government should be complied with in the conservation of the multiple resources of the basin.

- Various stipulation on lease terms should be developed with the inputs from various federal agencies, tribal government, state government and the general public. Flood Plain Management Executive Order (to.1198B) should be complied with. Lease stipulations should also include compliance provisions with various state, federal and tribal environmental, health, safety and mining regulations.
- Additional alternatives to proposed actions such as an alternative which consider Bisti and Ah-shi-sle-pah USAs as partial wilderness areas or Bisti and De-na-zin combined as one USA should also be considered. Similarly, certain other alternatives of the San Juan River Regional Coal Leasing, which can possibly be developed by combining one or more of the alternatives discussed, need discussion and treatment. In the matter of water use by coal and power companies and the possible new town, the feasibility of use of uranium mine devasting discharge and use of techniques which consume less water should be determined. Cost/benefit ratios of the various alternatives need also to be adequately determined. Cost/benefit ratio need not necessarily be a monetary figure; important qualitative consideration is sufficient.
- Separate EIS documents should be prepared for the possible new town and water use since these are some major issues.

NAVAJO PARTICIPATION AND DEMANDS

Navajos always encouraged energy activities in their land and welcomed the energy companies. Often times these companies have neglected the Navajo concerns and did not share the economic and other benefits of the project activities with the local Navajo residents. As a result Navajos have suffered and lost. Therefore it is now their demand that due and just attention should be given to their concerns and needs. The Navajos, on the other hand, will extend their cooperation and helping hand and effectively and meaningfully participate in the development activities.

Their demands, briefly, are as follows:

- They should be recognized as qualified surface owners in the checkerboard area where they had been living for centuries. The Navajo Tribal Council and Chapters should be given the opportunity to participate in various decision making and resource management processes or activities and communication should be enhanced.
- Local Navajo skills should be developed through proper advance training and schooling, if necessary, and fully utilized in the various activities and preference should be given to Navajo workers

and Navajo-owned companies or contractors. Notices of job vacancies and training should be given timely to the tribal government and chapter houses. The companies should seek and certify nonavailability of Navajo workers and contractors before giving jobs or the contracts to others. A specified and agreed upon percentage of the available jobs (skilled, unskilled and supervisory) and contracts should be reserved for the Navajo people.

- (c) Cooperative agreements should be established between the Navajo Tribe and the energy companies so that the tribe can participate in the business activities by supplying labor, contractual and engineering services, and materials. The Navajo Tribe should be given the opportunity to participate in the decision making process to facilitate relocation, develop mitigative measures, etc. Opportunity for joint venture in business and financial participation should also be provided to the Navajos. BLM should also give preference to qualified Navajo Coal Companies in the leasing process and for this purpose should also set aside certain tracts of coal selected by the Navajos to promote Navajo private or public sector. Navajo companies should be preferred as they are sensitive to the culture and thus will ensure maximum protection of the various cultural and archaeological resources and the Navajo lifestyle.
- (d) The mining and power companies, in consideration of the tremendous impacts the Navajos will have to bear in their ancestral land due to development activities, should spend a specified and agreed upon portion of the gross revenue for social and community needs of the local Navajo people and the chapter. It is a worldwide customary practice for companies to render such concessions to the local people impacted by their business activities. Such facilities and services consist of replacement housing for the relocatees of suitable size with water, electricity, gas, garage, telephone, heating and access roads; public school and training school; public roads; church, cultural and recreation center; water wells, pumps, windmills or municipality water lines; sewage; medical facilities including free medical care at company clinics or hospitals; bus or other transportation system; discount in railroad freight; water treatment plant; banking facilities; chapter house with full facilities, museum, library; fire station; drinking troughs and corrals for relocated livestock, stock ponds, dams and livestock reservoirs; fences; scholarships; ceremonial places; senior citizen center; shopping centers with service station, laundromat, convenience store and other stores; ambulance facility; waste disposal areas; bread adobe ovens; sweat houses; sheep dipping vats; various compensations based on contract agreement in connection with relocation, grazing and property damages due to mining activity and so forth. In fact extent of these services could be decided jointly by the companies and the tribe and included in terms and conditions for relocation, along with time frames to provide these services. These needs will be analyzed on a case by case basis.

loss, accident injuries, etc., due to mining and construction activities.

- (1) Applicable Navajo controls and standards will be established and enforced on the development activities as such standards are developed; these include but are not limited to water codes, safety codes, environmental codes, resource management codes, housing standards, air quality standards, relocation policies, compensation standard and procedure, mining and reclamation regulations, various environmental impact mitigation measures and procedures like sacred sites, grave sites, and archaeological sites preservation and relocation or salvage procedures, etc. Until such codes or standards are developed compliance with state or federal laws or regulation will be necessary.
- (j) The lease stipulations should be developed on a tract by tract basis with the consent of the Navajo Tribe. Before developing the stipulations, the impact study, where inadequate, should be updated, modified, corrected and additional studies made if necessary. Particular attention should also be given to subsidence control, reclamation, land use and maximization of resource recovery. The Navajo Tribe is willing to participate in the various decision making processes and formulation of stipulations.
- (k) A central committee should be formed, comprising of members from the BIA, BLM, Navajo Tribal Government, the company representatives, chapter officials and councilmen, whose primary function will be to regulate the energy activities, ensure that all the stipulations and provisions of lease and development activities are complied with, hardships of relocation are mitigated, land use planning is timely completed, communication is improved; and the local residents are informed ahead of time what is going to happen and when, and what the impacts are.
- (l) In case of discovery of other minerals the tribe will be informed immediately. All environmental pollution control plans, where applicable, should be approved by the tribal government which includes but is not limited to air and water pollution, land and soil damage, acid mine discharge, coal and spoil fire, subsidence, blasting and noise effects, waste disposal, toxic run off, etc. Some tracts of good coal should be conserved for future use by the tribe. A study should be made to protect, preserve and relocate the special interest plants and herbs which are used traditionally by the Navajos.
- (m) All the laws and regulations set forth in PL 93-531, the Navajo-Hopi Settlement Act, shall be applicable upon the transfer of land as authorized in PL 96-305, Section 11.
- (n) All injuries, accidents and deaths to residents and livestock, as well as, property damages caused by mining, construction and energy activities should be immediately reported to the tribe and the chapter officials.

(e) The legal issues as mentioned before should be rationally resolved prior to mining

- (f) Relocation should be avoided as far as practical. When needed the company should give advance notice to the residents and work out the plan for relocation in consultation with the tribal government and the chapter officials. Prior selection of suitable land for relocation should be made which will provide adequate grazing facility and where Navajo lifestyle can prevail. Relocation should be done in accordance with the tribal relocation and resettlement policies and should provide the following stipulations: residents and grazing areas shall be relocated within the current chapter, close by but out the way of mining and other activities; relocation shall be staggered; families shall be relocated as a unit, the new location shall have sufficient water and forage, housing, social services, health care and educational facilities; assurance should be given to reclaim the original land, keep the livestock permits and preserve the sacred sites; fair and adequate compensation for dwellings and improvements shall be provided; overcrowding will not be allowed; food ration will be provided during the initial years; means shall be provided to minimize the psychophysiological, economic and sociocultural stresses of the relocatees during the transitional period by providing the human needs, eliminating conflicts between relocatees, hosts and other outsiders, providing an atmosphere where they can maintain their Navajo identities; and taking care of other needs as mentioned in item (d).
- (g) Law enforcement in the Eastern Navajo Agency is already difficult because of the checkerboard nature of tribal, federal and state jurisdiction. With the influx of outsiders this situation will become worse. Therefore the companies should be responsible for the conduct of the employees, their friends, relatives and visitors, contractors, and other outsiders. All Navajo tribal laws and ordinances shall be observed. Conduct compliance rules shall be developed in recognition of social and cultural traditions of the Navajos and approved by the tribe and enforced. Certain things, in particular will not be allowed within the Indian country, e.g., i.e., carrying or possessing fire arms (except by the police); possession and consumption of intoxicating liquors, drugs and marijuana; provoking fights with Navajos and others; disrespectful attitude toward Navajo people, livestock, culture and tradition; unwanted fence cutting and negligent leaving of open gates, creating livestock loss or injury; unnecessary damage to vegetation, cattle guard, soil, timber, road, bridges, housing, etc.; hunting and fishing without permits; keeping wild pets or animals liable to kill or injure livestock or person; corralling of unlicensed or non-permitted livestock; reckless or negligent use of vehicles creating risk of injury to persons or property, etc.
- (h) The companies as a token of friendship should help the Navajo people in the events of emergency and hardship; help in building dams, livestock yards, roads construction and maintenance; supply free coal; quickly settle claims for property damage, livestock

(o) All the negotiated terms and conditions, stipulations, agreements, financial and other compensations, royalty and land rental agreements should be legally documented. These agreements or stipulations should be periodically reviewed, updated or modified to make them meaningful, effective and binding.

(p) As regards to the actual counting of residents in the impacted area, locating and counting of all sacred and grave sites and archaeological sites the Navajo Tribe is willing to help the BLM and the companies. In fact, the tribe had developed a questionnaire to determine the impact of the mining and energy projects and a detailed mitigative plans. The tribe thinks that actual field survey is needed. To follow the system of predictive model and sampling for the discovery of sites as devised by OSM will be misleading and could lead to wholesale and disastrous destruction of a great many highly significant and valuable sites. If properly planned with the help of the Navajo Tribe, mitigation of the archaeological, cultural and fossil resources will be easier and it will enhance exploration, preservation, recovery and knowledge of these resources.

(q) Finally, the companies, the tribal and chapter officials, BLM, BIA and other concerned state and federal agencies should jointly discuss and finalize the various common issues before and during the development activities.

CONCLUSION

The Navajo Nation is not satisfied with the environmental impact statements presented by BLM because they seriously underestimate the impacts of the proposed individual projects as well as the cumulative effect. It is hoped that the BLM and the coal and power companies give just and serious consideration to the Navajo concerns and the issues are dealt with diligently and rationally, not cursorily. There is the need to extend the deadline of the offer for the lease sales until the various details are completely worked out, agreement is reached in various aspects with the Navajo Tribe, various uncertainties are removed and public gets enough time to give their input. In conclusion, it is important that most meaningful and intelligent decisions be made, with careful consideration of public input, so that optimal utilization of resources can take place in proper harmony with environment.

THE NAVAJO NATION
WINDOW ROCK, NAVAJO NATION, ARIZONA 86515

PETERSON ZAH
CHAIRMAN NAVAJO TRIBAL COUNCIL



EDWARD T. BEGAY
VICE CHAIRMAN NAVAJO TRIBAL COUNCIL

April 08, 1988

Charles W. Luschier
State Director 1931 A
Bureau of Land Management
New Mexico State Office
Post Office Box #1419
Santa Fe, New Mexico 87501

Dear Mr. Luschier:

Attached are comments of the Navajo Nation's Department of Justice on the impacts of the San Juan River Regional Coal Leasing and New Mexico Generating Station projects on the waters and water rights of the Navajo Nation and its P.L. 95-306 land selection. These comments are supplements to the comments of the Navajo Tribe submitted with Chairman Peterson Zah's letter.

Whether these comments are formally answered in the final Environmental Impact Statements or not, we would appreciate your response to our concerns.

Sincerely,

E. Therhard
Eric Therhard
Acting Attorney General

H. H. Begay

Attachment

COMMENTS OF THE NAVAJO NATION DEPARTMENT OF JUSTICE
ON SJRRCL AND NMGS IMPACTS ON ITS WATER RIGHTS
AND WATER RESOURCES

1. NMGS-Authorizing Actions

The Navajo Nation is not recognized as an authorizing agency whose consent to license is required with regard to San Juan River water or groundwaters that underly the Navajo Reservation. The tribe claims and has extensive rights to the waters of the San Juan River and the aquifers underlying the eastern portion of the reservation under Winters v. United States, 207 U.S. 564 (1908), Arizona v. California, 373 U.S. 546 (1963) and Cappaert v. United States, 426 U.S. 128 (1976). The Navajo Tribe has first rights as an owner to the use of San Juan River water and underground waters and also has the power as a sovereign to enact laws respecting the use of its waters. Accordingly, Table I-1 and Appendix F of the NMGS EIS should reflect recognition of the Navajo Tribe as an authorizing agency whose approval is required on any Secretarial contracts for use of waters of the San Juan River and any permit or plan of replacement required by the New Mexico State Engineer. The NMGS EIS should state the requirement of compliance with any future laws enacted by the Navajo Tribal Council with regard to its waters and water rights.

2. Required Congressional Approval of Water Contract by the Secretary Under 43 U.S.C. §615 ss.

Table I-1 of the NMGS EIS listing the required permits, approvals, notifications and considerations for the proposed

actions does not list the requirement of approval of Secretarial water contracts by Congress. This should be included.

Section II of the San Juan Project Act, 43 U.S.C. §615 ss, provides that no long term contracts shall be entered into by the Secretary of Interior for the delivery of water stored in Navajo Reservoir, or for any other waters of the San Juan River or its tributaries, until the Secretary:

(1) Has determined by hydrologic investigations that sufficient water is reasonably likely to be available to fulfill the contract for use in the State of New Mexico during the term thereof; and

(2) The Congress has approved such contracts.

This procedure automatically provides for Navajo participation in decisions affecting its water rights in the San Juan River. It is vital that this be adhered to.

The Draft EIS of the NMGS states, at p. 1-17, that PNM will obtain San Juan River water by negotiation with existing contract holders, but the intended water usage and duration of the original contracts may not be the same. Any changes in the water contracts would still require Congressional action.

3. Economic Impact of Groundwater Usage Under Alternative 1-NMGS Water Supply

The maximum calculated drawdowns (which are illustrated by Map 3-2 of the NMGS EIS) under Alternative 1 Water Supply for NMGS show that groundwaters will be drawn away from underneath the Navajo Reservation in amounts which

will result in drawdowns greater than 1,000 feet under the reservation by the year 2033. NMGS will in effect be satisfying about one-half of its groundwater supply needs under Alternative 1 with Navajo water.

The Navajo Tribe has sufficient uses for the groundwaters underlying the New Mexico portion of the reservation for development of its coal and other mineral resources, industrial uses, irrigation projects, municipal and domestic supplies, and sheep and cattle ranching. Drawdowns of the magnitude forecast by the NMGS EIS have a major economic impact on such developments of a recognized Indian nation. The use of San Juan River water belonging to the tribe has similar impacts. These impacts are not addressed at all in the NMGS and SJRRCL EIS's and the Navajo Nation is not be consulted in the taking and use of its waters.

The planned generating station and stripmining cannot proceed in this fashion without legal entanglements with the Navajo and other Indian tribes. Recognition of tribal regulatory authority at this point in time may alleviate some of these problems, but all principals need to consult and negotiate with the Navajo Tribe. Such recognition of tribal authority and consultation will ensure the orderly development of the proposed projects and the provision of the envisioned benefits to the local people.

COMMENTS OF NAVAJO NATION DEPARTMENT OF JUSTICE
ON IMPACTS OF SJRRCL AND NMGS ON ITS 35,000 ACRE LAND
SELECTED UNDER PUBLIC LAW 96-305

The following statement is made in the SJRRCL EIS, at Page 1-22, in reference to the Navajo Tribe's selection of 35,000 acres of BLM lands under Public Law 96-305:

"The Department has this selection under active consideration but has not decided to approve the selection."

This statement implies that it is within the Bureau of Land Management's discretion to decide whether or not the selection is approved. Public Law 96-305 authorizes and directs the Secretary of Interior to make this transfer once the selection by the tribe is made. There may be no discretion not to transfer these lands after the selection, and the authority may not be delegated to the BLM due to its conflicting interests with the tribe.

If the Navajo selection is approved, the Navajo Tribe will have regulatory authority over lands upon which NMGS is to be built and other areas planned for competitive and preferred leasing. Due to its interest in the lands the Navajo Tribe would have to be a party to any leases of the lands.

It is an underlying assumption of the EIS's that exercises of tribal sovereignty and Indian preference in employment, as may be required by a lease with the Navajo Tribe, are not factors to be considered. These matters are not discussed at all. The message of the EIS's in effect is that the decision to disapprove the Navajo land selection has already been made.

The Navajo Tribe and the Navajo and Hopi Indian Relocation Commission still stand by their selection. The SJRRCL and NMGS EIS's have to be changed to assess the very probable impacts of tribal regulatory authority and Navajo preference in employment.

Planning for the SJRRCL and NMGS cannot continue without recognition by all principals of the interests of the Navajo Nation. With respect to its interests, the BLM, PBM and the mining companies should consult and negotiate with the Navajo Tribe.

RESOLUTION OF THE BREAD SPRINGS CHAPTER

Opposing Coal Leasing by the Bureau of Land Management Within the Bread Springs Chapter and Requesting the Congress and Executive Agencies to Honor the National Commitment to Preserve, Protect and Conserve Tribal Lands under Treaty, Trust, Constitutional and Other Legal Obligations

WHEREAS:

1. The Bread Springs Chapter of the Navajo Tribe of Indians is the local governing body of the Bread Springs and Pinehaven Communities, which are geographically located within Navajo Indian Country in McKinley County of the State of New Mexico; and
2. The United States Government by the Treaty of 1868 with the Navajo Tribe of Indians pledged by its honor to protect the persons and property of the Navajo Tribe; and
3. The members of the Bread Springs Chapter are members of the Navajo Tribe and thus enjoy the protectorate status conferred by the United States upon Indian Tribes as enunciated by the Highest Court of the Land; and
4. The members of the Bread Springs Chapter are citizens of the United States by virtue of the Citizenship Act of 1924 and, thus, enjoy all the liberties, rights and privileges, including the rights to procedural and substantive due process, conferred by the Constitutions of the United States and the State of New Mexico; and
5. The United States, in order to protect its wards from the encroachment of land swindlers and to encourage the Indians to engage in peaceful agrarian industry, granted allotments of lands to Navajo individuals to be held in trust by the Federal Government for the enjoyment and benefit of their families; and
6. In addition, the United States granted additional resettlement lands in McKinley County to the Navajo Tribe in 1975 through P. L. 94-114 to be held in trust for the benefit of the Navajo people, including members of the Bread Springs Chapter; and
7. Based upon the good faith belief that the United States would protect their allotments and resettlement lands from further encroachments, members of the Bread Springs Chapter made substantial improvements on those lands, including homes, fences, corrals, dams, windmills, other water catchments, and farms to carry out the intent of Congress to carry on agricultural pursuits; and
8. Section 2091.5 of Title 25, Code of Federal Regulations, provides, "Authorized officers will ascertain by any means in their power whether any public lands in their districts are occupied by Indians and the location of their improvements, and will suspend all applications made by others than the Indian occupants, upon lands in the possession of Indians who have made improvements of any value, whether or not patented."

9. The Secretary of the Interior is the principal trustee for Indian Affairs to protect Indian allotments and Tribal lands to provide for the economic welfare, health and general well-being of the Indian beneficiaries; and

10. By Secretarial Order 3087 dated February 7, 1983, the Secretary of the Interior delegated the trust mineral management functions, evaluation of mineral resources, approval of drilling, mining and production plans, inspection and enforcement, over Indian Lands to the Bureau of Land Management; and

11. In contravention of the superior Treaty, Constitutional, regulatory and trust obligations to protect Indian lands against outside interests, the Secretary of the Interior and officials of the Bureau of Land Management have set out on a reckless course to lay waste Indian allotments and Tribal lands through strip-mining for coal under the guise of Federal reserved mineral rights; and

12. According to the environmental impact statement of the Bureau of Land Management regarding coal leasing, the land will be impaired of all grazing and esthetic value for about 30 years, water and air quality will be contaminated to the extent of impairing the health and safety of all living things, homes and improvements will be destroyed by surface mining, the water rights of Indians and non-Indians will be impaired; and

13. Representatives of the Bureau of Land Management have failed to honestly and fully explain the projected adverse environmental impacts of strip or subsurface mining to allottees and members of the Bread Springs Chapter; and

14. Representatives of the Bureau of Land Management have vaguely talked of mitigating adverse environmental impacts and providing some compensation for surface damages, but have failed to provide specific, substantive and ascertainable criteria on which to measure damages to homes, grazing lands, water rights, improvements, livestock, or health and safety of allottees or permittees; and

15. Representatives of the Bureau of Land Management have failed to provide reasonable alternatives to living in the mining areas such as relocation to unoccupied Bureau of Land Management lands, with all the grazing privileges, water rights, healthful environment and relocation assistance for housing, improvements and compensation for losses connected with relocation; and

16. Representatives of the Bureau of Land Management have completely ignored the rights and privileges of non-allottees and non-Indians who live in the proposed coal-lease areas; and

17. The Governor of the State of New Mexico has, according to the Gallup Independent issued Tuesday, April 12, 1983, rejected the Bureau of Land Management environmental impact statement for its proposed coal leasing as "legally deficient and potentially subject to challenge in the future" because it violates the National Environmental Policy Act.

18. Various environmental groups have testified the Bureau of Land Management environmental impact statement seriously overstates the national demand for coal and the supply of commercial quality coal in the proposed coal leases areas.

NOW THEREFORE BE IT RESOLVED THAT:

1. The Bread Springs Chapter objects to and rejects plans of the Secretary of the Interior and the Bureau of Land Management to lease Indian allotments and Tribal lands for strip or subsurface mining in contravention of the Treaty, Constitutional, regulatory and the trust obligations to protect, preserve and conserve those lands for the Indians; and
2. The Bread Springs Chapter objects to the Bureau of Land Management's failure to honestly and fully disclose to uneducated members of the Bread Springs Chapter the adverse environmental impacts of surface and subsurface coal mining; and
3. The Bread Springs Chapter objects to the Bureau of Land Management's failure to offer suitable BLM lands and full financial assistance for relocation to all affected individuals, Indian and non-Indian; and
4. The Bread Springs Chapter respectfully requests the Congress and the Executive Agencies of the United States to honor the national commitments to protect, preserve, and conserve Navajo trust lands according to Treaty, Constitutional, Regulatory and Trust Obligations for the reasons stated above and to prevent another national tragedy similar or worse than the Navajo-Hopi Land Dispute.

CERTIFICATION:

The foregoing resolution was adopted, at a duly called meeting of the Bread Springs Chapter at which a quorum was present by a vote of 1 in favor and 0 opposed on the 27th day of April, 1983.

[Signature]
Chapter President

[Signature]
Chapter Vice President

[Signature]
Councilman

[Signature]
Chapter Secretary

Resolution of Littlewater Chapter

SUBJECT: Regarding to the proposed coal development.

WHEREAS:

1. The Littlewater Chapter has discussed and considered several times the benefits and disadvantages of coal development in this area and the Littlewater Chapter has weighed the following factors in this evaluation:
 - (a) loss of grazing land entirely;
 - (b) relocation of Navajos from their long-established residence for a long while;
 - (c) destruction of gravesites and our ancestral gravesites;
 - (d) destruction of sacred sites and lessened ability of medicine men to perform ceremonies with effectiveness;
 - (e) impacts on our Chapter from the influx of new people into our area, including increased prices and increased demands upon social services such as police and schools;
 - (f) Greater probability of crime and vandalism;
 - (g) water usage from the proposed developments;
 - (h) the very strong likelihood that no successful reclamation is feasible for these lands;
 - (i) increased air and water pollution;
 - (j) failure of the United States to grant Navajo people in PRLA areas the same surface owner consent rights as are granted elsewhere by 30 U.S.C. §1304;
 - (k) lack of inclusion of the Navajo Nation in the planning for impacts;
 - (l) total disruption of our lifestyle;
 - (m) added jobs for Navajos;

NOW THEREFORE BE IT RESOLVED THAT:

1. The Littlewater Chapter go on record as opposing without reservation any proposed strip mining in our area.

2. The Bureau of Land Management to the Public Participation Specialist for its inclusion into the review process,
3. The Littlewater Chapter take all means necessary or desirable to effectuate the intent of this resolution, including the hiring of attorneys.

C-E-R-T-I-F-I-C-A-T-I-O-N

We hereby certify that the foregoing resolution was duly considered by Littlewater Chapter at a duly called regularly chapter meeting at which a quorum was present and the same was passed by a vote of 32 in favor, and 0 opposed, upon motion by Benny Ennis, seconded by Adrian Ennis, this 5th day of May, 1981.

[Signature]
Chapter President

[Signature]
Chapter Vice-President

[Signature]
Chapter Secretary

[Signature]
Council Delegate

RESOLUTION OF
NAGEEZI CHAPTER

Regarding Proposed Coal Development

WHEREAS, the Chapter has discussed and considered several times the benefits and disadvantages of coal development in this area and the Nageezi Chapter has weighed the following factors in this evaluation:

- (a) loss of grazing land;
- (b) relocation of Navajos from their long-established residence;
- (c) destruction of gravesites;
- (d) destruction of sacred sites and lessened ability of medicine men to perform ceremonies with effectiveness;
- (e) impacts on our Chapter from the influx of new people into our area, including increased prices and increased demands upon social services such as police and schools;
- (f) greater probability of crime and vandalism;
- (g) water usage from the proposed developments;
- (h) the very strong likelihood that no successful reclamation is feasible for these lands;
- (i) increased air and water pollution;
- (j) failure of the United States to grant Navajo people in PRLA areas the same surface owner consent rights as are granted elsewhere by 30 U.S.C. §1304;
- (k) lack of inclusion of the Navajo Nation in the planning for impacts;
- (l) total disruption of our lifestyle;

(m) added jobs for Navajos;

WHEREFORE, be it resolved at a duly called meeting of the Nageezi Chapter on April 13, _____, 1981 by vote of 35 in favor and 0 opposed, upon motion by SARAH B CHARLEY seconded by JOE CLY, that:

(1) This chapter go on record as opposing without reservation any proposed strip mining in our area;

(2) This Chapter send this resolution to the Bureau of Land Management, P.O. Box 6770, Albuquerque, New Mexico to the Public Participation Specialist for its inclusion into the review process;

(3) This Chapter take all means necessary or desirable to effectuate the intent of this resolution, including the hiring of attorneys.

Samuel Martinez
Chapter President

Joe Cly
Chapter Vice-President

Eric D. Eberhard
Chapter Secretary

Navajo Tribal Council Delegate
Navajo Tribal Council Delegate

RESOLUTION
of Huerfano Chapter
Box 241

Farmington, New Mexico 87401
August 3, 1981

TO: Bob Calkin
900 La Plata Hwy
Farmington, New Mexico 87401

FROM: Huerfano Chapter.

SUBJECT: Land Exchange and PRLA Rejection.

WHEREAS: The Farmington Bureau of Land Management Representative, Mr. Jeff Retherford and Mr. Daniel S. Charley had informed the Huerfano Chapter of Land Exchange between the Bureau of Land Management and the Public Services of New Mexico. The land designated for exchange is Ute Mountain, Taos, NM for lands between Bisti and Star Lake, NM South of Farmington, NM.

The purpose for the lands exchange is to erect future Generating Station to supply power lines to the various cities out of State.

The Chapter felt that these lands exchange should be delayed for further negotiation and have voted "No land exchange" because the exchange will affect many innocent allotted land owners and fee grating lands which are occupied by the Navajo livestock owners in that area.

NOW THEREFORE BE IT RESOLVED THAT: The Public Services of New Mexico and Bureau of Land Management of New Mexico recognize and be aware of Huerfano Chapter's rejection of lands exchange.

I HEREBY CERTIFY THAT THE FOREGOING RESOLUTION: Was thoroughly discussed and acted on by Allen King, Seconded by Franklin Sandoval and was passed by the vote of 12 in favor 0 opposed at the regular chapter meeting held on the 9 day of July, 1981.

Allen King
Chapter President

Franklin Sandoval
Chapter Secretary

Harry Cook
Chapter Vice-President

Allen King
Council Delegate

cc: File
Jeff Retherford, BLM, Albuquerque
Daniel Charley, BLM, Farmington, NM
Retherford, Bureau of Land Management and BLM.

RESOLUTION OF THE
TORREON CHAPTER

Concerning Star Lake Railroad legal representation

The approval of the Interstate Commerce Commission ("ICC") and the Department of the Interior is being sought by the Star Lake Railroad. The ICC has already approved, and the Department of the Interior is expected to approve, also. The Torreon Chapter, at a duly called meeting on May 26, _____, 1981 where a quorum was present, discussed the issue and finds that

1. we reaffirm the stand against the planned railroad and coal development that we took by resolution dated April 9, 1979, and
2. we need to retain the services of attorneys so that our position and desires will be protected as much as possible

NOW, THEREFORE, BE IT RESOLVED THAT

The Torreon Chapter hereby authorizes its officers to retain the services of DMA-People's Legal Services ("DMA") and/or Eric D. Eberhard to represent this Chapter in railroad coal and related matters. The attorneys so retained shall be authorized to file suit or intervene or take other appropriate actions on the Chapter's behalf.

CERTIFICATION

We hereby certify that the foregoing resolution was duly considered by the Torreon Chapter at a duly called and regularly scheduled Chapter meeting at which a quorum was present. Motion of _____ seconded by _____ and the same was passed by vote of _____ in favor and _____ opposed this _____ day of _____, 1981.

Eric D. Eberhard
Chapter President

(resigned)
Chapter Vice-President

Eric D. Eberhard
Chapter Secretary

Eric D. Eberhard
Council Delegate

RESOLUTION OF THE
LAKE VALLEY CHAPTER

Concerning Star Lake Railroad legal representation

The approval of the Interstate Commerce Commission ("ICC") and the Department of Interior is being sought by the Star Lake Railroad. The ICC has already approved, and the Department of Interior is expected to approve, also. The Lake Valley Chapter, at a duly called meeting on June 11, _____, 1981 where a quorum was present, discussed the issue and finds that

- (1) we reaffirm the stand against the planned railroad and coal development that we took by resolution dated March 3, 1979, and
- (2) we need to retain the services of attorneys so that our position and desires will be protected as much as possible.

NOW, THEREFORE, BE IT RESOLVED THAT

The Lake Valley Chapter retain the services of DMA-People's Legal Services, Inc. ("DMA") to represent this Chapter in railroad coal and related matters, and that this retainer be continued until such time as the Chapter decides to file suit or intervene on the Chapter's behalf.

CERTIFICATION

We hereby certify that the foregoing resolution was duly considered by the Lake Valley Chapter at a duly called and regularly scheduled Chapter meeting at which a quorum was present and the same was passed by vote of _____ in favor and _____ opposed, upon motion of _____ seconded by _____ and the same was passed by vote of _____ in favor and _____ opposed this _____ day of _____, 1981.

William R. Retherford
Chapter President

William R. Retherford
Chapter Vice-President

William R. Retherford
Chapter Secretary

William R. Retherford
Council Delegate



THE NAVAJO NATION
WINDOO ROCK NAVAJO NATION (ARIZONA) 88515

PETER MACDONALD
CHAIRMAN NAVAJO TRIBAL COUNCIL
FRANK E. PAUL
VICE CHAIRMAN NAVAJO TRIBAL COUNCIL

June 9, 1981

Public Participation Specialist
BUREAU OF LAND MANAGEMENT
Post Office Box 16770
Albuquerque, New Mexico

To Whom It May Concern:

Enclosed please find a copy of the resolution from Ojo Encino Chapter. The chapter have acknowledged their opposition to any more mining activities or prospects within the jurisdiction of Ojo Encino Community.

The advantages and disadvantages are justly justified in the document that affects the human, feeling rights, economy and property alike. In behalf of their defense they have petition the foregoing resolution as an acknowledgment of opposition for any future development.

Respectfully,

OFFICE OF NAVAJO REVENUE SHARING
Patric Nelson
Patric Nelson
Adm. Service Officer I
Community Services Section

Attachment

cc: James Notah, Executive Director
Robert Shorty, Jr., Ass't Executive Director
Gilbert Toledo, President, Ojo Encino Chapter
Frank E. Paul, Vice Chairman, Navajo Tribal Council
Kenneth Howard, Adm. Assistant, Eastern Agency

RECEIVED

JUN 02 1981

RESOLUTION OF
OJO ENCINO CHAPTER

Regarding Proposed Coal Development

WHEREAS, the Chapter has discussed and considered several times the benefits and disadvantages of coal development in this area and the Ojo Encino Chapter has weighed the following factors in this evaluation:

- (a) loss of grazing land;
- (b) relocation of Navajos from their long-established residence;
- (c) destruction of gravesites;
- (d) destruction of sacred sites and lessened ability of medicine men to perform ceremonies with effectiveness;
- (e) impacts on our Chapter from the influx of new people into our area, including increased prices and increased demands upon social services such as police and schools;
- (f) greater probability of crime and vandalism;
- (g) water usage from the proposed developments;
- (h) the very strong likelihood that no successful reclamation is feasible for these lands;
- (i) increased air and water pollution;
- (j) failure of the United States to grant Navajo people in PRLA areas the same surface owner consent rights as are granted elsewhere by 30 U.S.C. §1304;
- (k) lack of inclusion of the Navajo Nation in the planning for impacts;
- (l) total disruption of our lifestyle;

(m) added jobs for Navajos;

WHEREFORE, be it resolved at a duly called meeting of the Ojo Encino Chapter on June 1st, 1981 by vote of 59 in favor and 0 opposed, upon motion by Billy Castillo seconded by Harry Willetto, that:

- (1) This chapter go on record as opposing without reservation any proposed strip mining in our area;
- (2) This Chapter send this resolution to the Bureau of Land Management, P.O. Box 6770, Albuquerque, New Mexico to the Public Participation Specialist for its inclusion into the review process;
- (3) This Chapter take all means necessary or desirable to effectuate the intent of this resolution, including the hiring of attorneys.

Gilbert Toledo
Chapter President

Robert Shorty
Chapter Vice-President

Patric Nelson
Chapter Secretary



THE NAVAJO NATION

PUEBLO PINTADO CHAPTER — DISTRICT 15
Pueblo Pintado Chapter
Cuba, New Mexico 87013

FRANK E. PAUL
VICE CHAIRMAN

BILLY CHOUTO
PRESIDENT
HERBERT ANTONIO
VICE PRESIDENT
JOHNSON ANTONIO
SECRETARY-TREASURER

SUBJECT: Opposition to Surface Strip Mining in Star Lake, Pueblo Pintado and Chaco Canyon Area.

WHEREAS:

- 1. By Resolution, The Pueblo Pintado Chapter and The Community indicated its opposition to any surface strip mining in Star Lake Pueblo Pintado and Chaco Canyon area, and
- 2. This action made by Pueblo Pintado Chapter and the Community demonstrates the concerns of the Navajo people of the intense negative results that will come about as a result of surface strip mining, the effects on the livelihood, economic, social, health, relocations and environment of the people and,
- 3. It is very desirable to support and its stand against surface strip mining.

NOW THEREFORE BE IT RESOLVED THAT:

- 1. The Pueblo Pintado Chapter and The Community hereby to oppose and its stand against surface strip mining in the Star Lake area and also in the surrounding areas.

CERTIFICATION:

I HEREBY CERTIFY THAT THE FOREGOING RESOLUTION was duly considered and moved for adoption by Bart Pascal and seconded by Lee Charley, then, thoroughly discussed and adopted by vote of 61 in favor, 02 opposing at a regularly called meeting at Pueblo Pintado Chapter House, Pueblo Pintado, New Mexico on the 07th day of July 1981.

Chapter President: *Billy Chouto*
Chapter V. President: *Herbert Antonio*
Chapter Secretary: *Johnson Antonio*

REPRESENTATIVE GROUPS

83680

a Comment

THE SAN JUAN RIVER REGIONAL COAL ENVIRONMENTAL IMPACT STATEMENT

COMMENTS OF
JAMES S. CANNON

ON BEHALF OF
CITIZENS FOR A BETTER ENVIRONMENT

SUBMITTED TO
THE U.S. BUREAU OF LAND MANAGEMENT

ALBUQUERQUE, NEW MEXICO
JANUARY 14, 1983

citizens
for a
better
environment



CBE-83680

CBE-83680

Thank you for providing this opportunity for public comment on the Draft Environmental Impact Statement (EIS) examining the San Juan River regional coal development plan proposed by the U.S. Bureau of Land Management (BLM).

My name is James S. Cannon. I am an energy analyst who has worked on federal coal leasing policies for the past 12 years. Most recently, I have been employed as a Consultant to the U.S. Congressional Office of Technology Assessment (OTA) and am the principal author of three OTA documents published in 1981. They are Patterns and Trends in Federal Coal Lease Ownership (1981), 1980: Development Prospects of Federal Coal Leases in New Mexico (1981), and Federal Coal Preference Right Lease Applications: Their History, Ownership, and Current Status. I also worked as a Policy Analyst for two years on the OTA study entitled An Assessment of Development and Production Potential of Federal Coal Leases, and was the principal author of two chapters in the report. Prior to working for OTA, I researched and wrote two in-depth analyses of federal coal leasing entitled Leased and Lost: A Study of Public and Indian Coal Leasing in the West (1974) and Mine Control: Western Coal Leasing and Development (1978). I testified twice in 1975 before Congressional subcommittees concerning bills which eventually resulted in the Federal Coal Leasing Amendments Act of 1976 and I testified again in 1982 concerning proposed amendments to the Mineral Leasing Act contained in H.R. 5895. Among other coal leasing-related projects, I submitted written critiques in 1975, 1979, and 1982, analyzing various Department of Interior leasing programs or regulations. A copy of my resume is attached to my written comments.

There are currently 29 federal coal leases in New Mexico, covering 40,900 acres and 447 million tons of recoverable coal reserves. The preferred or "target" leasing program outlined in the Draft EIS can be divided into two parts. The first proposes to issue over twenty preference right lease applications (PRLA) which have been pending for more than a decade. These leases will be issued without competitive bidding with no return to the federal treasury or to the coffers of the State of New Mexico. The PRLAs cover 77,600 acres and 1.75 billion tons of recoverable reserves. Completion of this part of the leasing program will increase federal coal reserves under lease in New Mexico by 391% and broaden acreage under lease by 17%. This portion of the leasing program is, unbelievably, called the "no action" program by the BLM.

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The "target" alternative also includes issuing 24 new competitive leases covering 700 million tons of recoverable reserves and at least 35,077 acres of New Mexico land. The target alternative in total proposes to lease nearly 2.5 billion tons of coal, 548 more than all federal coal under lease in New Mexico today, and to increase acreage under lease to over 159,000 acres, a 278% jump in one year.

The target alternative is the most ambitious leasing proposal ever offered for one region of the country in the 63-year history of the federal coal leasing program. The leasing scheduled to occur within the next year is nearly double the coal leased last April at the Wyoming Powder River Basin coal sale, which currently is by far the largest coal lease sale ever held.

The EIS states that the Regional Coal Team "has selected the target alternative as the preferred alternative that would best meet the nation's need for coal" (page VIII). The regional coal team has misjudged its charge. The Stripmining Control and Reclamation Act of 1977 does not direct energy planners to seek the "best" way to fill coal demand. Rather, it says that national policy "... must strike a balance between protection of the environment and agricultural productivity and the nation's need for coal as an essential source of energy" (30 USC 201(a)(1)). Moreover the Coal Leasing Act requires new leases be issued competitively and that all leased land be brought into production within ten years of the date of the issuance of the lease. These requirements were aimed at assuring "fair market value" and "orderly development."

Quite to the contrary of these directives, the target alternative does not strike a balance between coal leasing and other concerns. It does not guarantee receipt of fair market value for public coal land. It does not assure that "competitive" coal leasing will occur. It doesn't even propose to lease land that has a likelihood of being in production within ten years. Indeed, the EIS admits that some land proposed for leasing will not be in production before the year 2025, nearly 40 years off.

What the target alternative proposes instead is the loss of untold millions of dollars to the State of New Mexico, which receives half of all bonus bids for federal leases, and so the deficit-ridden U.S. Treasury. It will lead to windfall profits to private industry. It opens the door to speculation. And it will undermine the efforts of the State of New Mexico to

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take a leadership role in guiding energy development, water resources allocation, urban and rural social planning, and environmental protection, forcing it instead back into the too familiar reactive mode.

Most shockingly, perhaps, the target program is not even the best way to meet the nation's coal demand. It is unrelated to meeting coal demand. The current overcapacity within the coal mining industry in the United States and the weakening of demand for coal makes new leasing irrelevant to meeting nonexistent production shortfalls. More leasing could, however, promote the chaotic restructuring of the coal mining industry and coal markets, resulting in needless economic disruption, loss of jobs, and environmental damage.

There is No Need for New Leasing in New Mexico

According to the EIS, "the need for additional federal coal leasing was established and documented in the Final Environmental Statement: Federal Coal Management Program (1979), the analysis that went into that EIS, and the Department of Energy production goals" (page 1-1). The coal production goal for 1990 was set at approximately 57 million tons.

A lot has happened since this projection was made. Considerable new evidence has appeared which strongly suggests that the coal production capability of the New Mexico mining industry without new competitive coal leasing is more than sufficient to meet the 57 million ton projection, and furthermore, that the projection itself is much higher than the amount of coal likely to be needed in 1990 to meet demand. The U.S. Office of Technology Assessment, as part of its comprehensive coal leasing project, convened a task force of specialists on the New Mexico coal industry in Santa Fe between August 25 and 28, 1980. The task force concluded that should the demand for New Mexico coal develop, the coal industry in the state could increase production from the 18.3 million tons actually produced in 1980 fourfold, to 72.3 million tons by 1990 without new competitive leasing. All of this coal could come from coal land already held by companies active in the coal mining business. Even without new leasing, the task force projected federal land to be the largest source of new coal production. The OTA, in its final report, reversed this potential coal

* Projection goals were developed in the reports: "Estimates, National and Regional Coal Production Goals for 1980, 1990, and 2000" prepared by the OTA in August 1980, and the "Third Biennial Update of National and Regional Coal Production Goals for 1980, 1990, and 2000" published by the U.S. Department of Energy in January 1981.

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production forecast only slightly, to 67 million tons, still considerably more than 57 million tons.

On the demand side, a large increase in demand for New Mexico coal is simply not developing. In December, 1982, a draft report by four energy consultants hired by the State of New Mexico indicated that demand for New Mexico coal would increase a meager five to ten million tons by 1990 and perhaps another 10 to 20 million tons by the end of the century.* The report cited four reasons for the slow growth in demand for New Mexico coal:

- o decline in demand for electricity
- o competition in the electricity market from nuclear power plants
- o competition in the coal market by Wyoming coal and Texas lignite coal
- o the lack of industrial growth

A shortage of competitive coal leases is conspicuously absent from this list.

Coal analysts nationwide all report a tremendous overcapacity in the coal industry nationwide today. Estimates of excess capacity as high as 150 million tons have been quoted in the trade press in the last few months. Most of this overcapacity exists in the Western United States. This situation is likely to continue. The OTA concluded that by 1991, mining capacity in the Powder River Basin alone would total 348 million tons, without new leasing, compared to an estimate of actual production, based on demand, of 230 million tons.

If there is a reason to lease vast quantities of San Juan coal, it's certainly not because of the nation's coal appetite or because of a shortage of coal mines.

Competition Will Not Result from New Leasing

It's not to promote competition, either. The target program is not likely to arouse competition for federal coal leases, as required by Congress.

A review of coal lease sales since the enactment of the Federal Coal Leasing Amendments Act shows a shocking disregard for the mandate to lease coal "competitively." A review of all leases issued since 1979, when the Department

* The study, as reported in Coal News, was prepared by the National Energy Consultancy, Data Resources Inc., Temple, Baker & Sloan, and International Energy Associates.

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of Interior promulgated regulations implementing the 1976 Act, indicates that only one or two bidders showed up at 85 of the lease sales. At the Powder River Basin lease sale held in April 1982, only one party bid for 8 of the 11 leases issued. From 1970 to 1971, 86 of the competitive lease sales had only one or two bidders. This is precisely the definition of "lack of competition" that Congress ordered changed. The record since 1979, however, is no better.

Fair Market Value Will Not Be Obtained

A major reason for the lack of competition for leases, of course, is the current production overcapacity. If the federal government waited until the prospects of more competitors appearing at lease sales improved, the likelihood of higher bids would increase dramatically. For example, for the three leases in the Powder River Basin which drew more than two bidders, bids were raised during the auction 20-fold compared to the minimum entry bid. The eight leases which drew one bidder sold for less than 5% above the minimum entry bid.

Perhaps the most egregious shortcoming of the target program is that it will not obtain fair market value through the leasing process as required by Congress, the public land "giveaways" will not stop.

Refraining from leasing until reasonable prospect for commercial development of coal is absolutely vital to the concept of obtaining fair market value. It is only through leasing near the "economically optimal" time for development that "economic rent," which is the difference between the value of coal in the marketplace and the cost of production including reasonable rate of return, can accrue the lessor, in this case the public, as opposed to the leasing company. Yet the target program proposes to lease some tracts of land for which there are virtually no prospects for development this century. These include the Hospah No. 1, Gallolash No. 2, and Hospah No. 2 tracts, none of which are scheduled for production before the year 2010. The lack of demand for New Mexico coal makes it highly unlikely that most other leases will reach production before the diligence deadline.

Evidence that federal coal land continues to be leased at "bargain basement" prices abounds. A 1982 report* determined the average winning bid

* Report to the U.S. Office of Technical Assessment on the Result of Bidding for Competitive Coal Sales from 1974-1976, James Shannon, May 6, 1982.

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for all leases issued since the passage of the Leasing Amendments Act to be a mere 5.6c per ton of leased reserves. The average winning bid at the Powder River Basin lease sale was an unbelievably low 3.5c per ton.

Private corporations pay considerably more for coal reserves in private sector transactions. A February 22, 1982 article in the Hall Street Journal, for example, concluded that the "going rate" for private coal reserves was between 20c and \$100 per ton.

Economic rent not received by the federal government often accrues to coal lessees if they assign coal leases to other companies. In early 1982, for example, Pacific Gas and Electric Co. sold some Utah leases to Sun Oil Co. These leases were originally issued by the government for about \$25,000. PG&E bought them later for \$35 million and, although it never mined a ton of coal, the company sold the leases again for \$171 million. In another case, Peabody Coal sold a portion of a coal lease it acquired in 1966 for a little over \$3.00 per acre to Shell Oil Co. in 1981 for \$17,000 per acre. Every cent of the profits involved in these sales went into the pockets of the leaseholders.

Under conditions of strong demand for coal by many competitors, a free market should naturally return fair market value. These conditions will not exist at the proposed San Juan sales. But even if they do, the determination of the present administration to promote coal leasing will still prevent the public from receiving a fair return. The definition of fair market value contained in the Uniform Appraisal Standards for Federal Land Acquisitions reads:

Fair market value is defined as the amount in cash, or in a reasonable equivalent to cash, for which, in all probability, the property would be sold by a knowledgeable owner willing, but not obligated, to sell in a knowledgeable purchaser who desired but is not obligated to buy.

The conditions necessary to obtain fair market value thus include a knowledgeable seller willing but not obligated to sell. But the coal leasing regulations recently promulgated by the Department of Interior will deliberately keep the government in the dark. The regulations aim to promote leasing in response to industry's interest in reserves. Prelease fair market value determinations and analysis of the maximum economic recovery potential of prospective coal leases procedures have been deleted from the department's leasing protocol in the new regulations. The Department intends to walk into lease sales blind.

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Also, while the Department is not obligated under the current regulations to sell all leases at industry's request, the clear thrust of new guidelines to assess the adequacy of bids is to accept virtually any amount of money. The Department is deliberately creating a "buyer's market," which, by definition, is not "fair."

Leasing Will Not Promote More Orderly Development

A final argument to justify more leasing is that land more suitable for coal mining, in terms of reclamation potential or other concerns, can be made available for development, ultimately reducing adverse impacts from mining compared to maximum development of existing leases. This argument too is flawed. Existing leaseholders have a big jump on new lessees in the fight to capture a share of the coal market, especially in these times of weak demand. They acquired their leases even more cheaply than new lessees will, and they have years of planning and marketing efforts already behind them. Also, coal already under lease is generally of higher quality than unleased coal.

What more leasing will do, on the other hand, is to vastly increase the burden of the state and local government agencies which are attempting to plan for and accommodate impacts of coal mining in New Mexico. This planning, which includes very costly projects like building roads and sewage treatment plants and expanding public services, must be done well before coal mines open. Where is the State to get the money it will need to do this planning for all the new areas being offered for lease under the target program? Not from competitive lease bids, that's for sure. Royalties won't be collected until after mining begins. It must come from New Mexico taxpayers or the citizens of New Mexico will bear the consequences of unplanned, boom-bust development. It makes you wonder, who is the real "target" of the "target program"?



NEW MEXICO AUDUBON COUNCIL

January 14, 1983

Bureau of Land Management
P. O. Box 6770
Albuquerque, New Mexico 87107

With reference to proposals to mine coal in the Bisti area, we object to tearing up areas rich in geological formations, stratified fossils and fossil remains.

We object to disturbing native people who have lived in this area for many years.

We object to the destruction of the scenic value of these lands.

Just because scenery and fossil remains and formations cannot be measured in fixed market dollars should not be reason to brush it all aside in favor of coal (so it seems).

We realize that the value of coal can be fixed but you must realize that there are other things of immeasurable value to a great many people. In this area coal mining can leave nothing but waste and desolation in its wake. Left as it is the Bisti area reflect beauty, tranquillity, knowledge and peace. Coal mining is like a burning ember, once consumed it is gone forever.

Why not reopen areas where coal was previously mined and still exists? Such as the immediate vicinity of Gallup.

Sincerely,

Barbara D. Miller
Barbara D. Miller
President

A COALITION OF NEW MEXICO CHAPTERS OF THE NATIONAL AUDUBON SOCIETY



Museum of Northern Arizona

February 3, 1983

Charles W. Luscher
State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, NM 87501

Dear Mr. Luscher:

In 1979 and 1980, the Museum of Northern Arizona (MNA) conducted an intensive cultural resources inventory on almost 35 sections of land in the southern portion of the Chaco Planning Unit for the Bureau of Land Management (BLM). Museum of Northern Arizona has also conducted numerous and extensive paleontological investigations in northwestern New Mexico. In light of our experience and interest in this important region, we have reviewed three documents prepared by BLM: New Mexico Generating Station Draft EIS, San Juan River Regional Coal Leasing Draft EIS, and the San Juan Basin Cumulative Overview EIS. Our major concerns with these three documents revolve around our thorough knowledge of the paleontological and cultural resources present, resources which cannot be duplicated elsewhere in the country and which are of the highest scientific value.

Although our report (A Class II Cultural Resources Inventory of the Southern Portion of the Chaco Planning Unit, McKinley and Sandoval Counties, New Mexico) was cited in each of the three documents, we are concerned that actual site locations may not have been plotted in relation to proposed developments. These site locations are stored in four separate repositories, BLM Albuquerque Office, Laboratory of Anthropology, National Park Service SJBRUS computer bank, and MNA. The two preferred transmission line routes from the New Mexico Generating Station (NMGS) to Albuquerque as well as several of the PRLA zones near Gallup and north of Grants appear to coincide with areas surveyed by MNA. It is not made clear that these sites, locations of which are available at four repositories, have been taken into account, although predicted site density figures are offered. This may be simply a result of the manner in which all draft environmental impact statements are prepared, but we find the omission of some concern. Our concern for these sites--which will almost certainly be affected by proposed developments--has prompted us to include Xerox copies of all our survey units with this letter, with site locations plotted on them.

ROUTE 4 BOX 720 FLAGSTAFF, ARIZONA 86001 (602)774-5211

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Mr. C.W. Luscher
February 3, 1983

Information concerning each site is available at the four repositories named earlier.

While several intensive cultural resources inventories have been performed in the San Juan Basin, we are unaware of any similar inventories of the paleontological resources present. Vertebrate and invertebrate fossils in the San Juan Basin represent a scientific data base of unparalleled importance due to high numbers, good exposures, and extreme time range. We would urge that paleontological inventories be undertaken, perhaps on some sampling basis, on lands within the San Juan Basin prior to preparation of the Final EIS for any of the proposed developments. The current state of knowledge concerning fossils does not seem adequate to plan for such extensive and potentially damaging developments. A greater degree of concern should be devoted to the paleontological resources present.

We would also urge great concern for the traditional values of Navajo families residing within the areas to be affected under these Draft EIS's. Religious values are not the only traditional values which will be affected by proposed developments. Traditional land use patterns, social structure, and other important aspects of Navajo culture will also be affected at a much increased rate over the present acculturation processes underway in the region.

Finally, it is our earnest hope that the quality of research into the three areas mentioned above--cultural resources, paleontological resources, and traditional values of the resident Navajo population--was of sufficient breadth and quality to justify making the statements that appear in each of the three Draft EIS's reviewed. Without review of the supporting technical research reports, it is most difficult to pass judgment on these documents, since they represent brief summaries and condensed conclusions based on the technical research reports. It is impossible to know whether the technical reports were correctly interpreted by those making such summary statements. It is difficult at best to make value judgments about the potential impact of any proposed development on the scientific informational values inherent in the resources of a region. But the informational values present in northwestern New Mexico are of such high importance to science that great caution must be exercised when offering decisions concerning their future as required in a Draft EIS. We have no way of knowing how much caution was exercised in making the judgments present. We can only hope that the degree of caution was sufficient, and that such judgment were made on the basis of sound and thorough technical research reports.

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Mr. C.W. Luscher
February 3, 1983

Thank you for this opportunity to comment on these three documents.

Sincerely,

Alan R. Dulaney
Alan R. Dulaney
Supervisory Archaeologist
Department of Archaeology

Steven G. Dosh
Steven G. Dosh
Assistant Supervisory Archaeologist
Department of Archaeology

ARD/amw

Enclosures

Salt River Project WATER & POWER

BOX 1980 PHOENIX, ARIZONA 85001

TELEPHONE 273-5000

March 31, 1981

Chief, Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

Re: Draft San Juan River Regional Coal Environmental Impact
Statement

Salt River Project Agricultural Improvement and Power District (Salt River Project) is a political subdivision, organized in existing pursuant to the constitution and laws of the State of Arizona, and provides electric power and energy to some 130,000 residential, commercial, industrial and agricultural customers in Maricopa County and portions of Pinal and Gila Counties. Salt River Project, as a qualified Public Body, has expressed an interest in the Hageezi Tract and offers the following comments on the above-referenced document:

1. The Hageezi Tract as shown in Table 2-2 is not footnoted as an underground tract when in fact it is.
2. In Chapter 3, "Environmental Consequences" under Mitigation Measures, Cultural Resources, the statement is made, "The surface-disturbing activities would be conducted within the expanded community boundary of Pierre's Ruin Community." (Emphasis Added) To determine the extent of the expanded community boundary, one must refer to Figure 2-6. The figure, with associated text, yields an area of 1400 acres effectively withdrawn from the Hageezi Tract pursuant to the above statement. The 1400 acres does not include additional area required for barrier pillars to achieve no surface subsidence within the expanded community boundary.

Salt River Project has continuously expressed its support of the protection of Pierre's Ruin Community and has worked with representatives, including archaeologists, of the National Park Service and the BLM to achieve a protected status for the site. BLM's own archaeologists have determined the extent of the community is 655,25 acres, which is the same as the tract within the expanded community boundary. The community is located in the north of the Hageezi Tract, and the community is located in the north of the Hageezi Tract, and the community is located in the north of the Hageezi Tract.

March 31, 1981
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boundary primarily affects sections to the north where there are no sites. It should also be noted, the BLM statement in Chapter 3 is contrary to the position adopted by the Regional Coal Team and the National Park Service.

As stated above, Salt River Project and BPS have met and discussed necessary measures to protect and preserve the Pierre's Ruin Community. The conclusions reached included isolation on the part of Salt River Project of the community within 800 feet of the "Cochise Outlier Protection Site Boundary (PL 94-550)", as shown in Figure 2-6. This results in a 400 acre buffer zone surrounding the Pierre's Ruin Community, which effectively ensures no damage to the surface structures, and is consistent with the stated positions of Salt River Project, the National Park Service and the Regional Coal Team. National Park Service archaeologists have determined the 800 foot limit protects the site.

Given the findings of BLM's archaeologists, the results of meetings between Salt River Project and the National Park Service, and the position of the Regional Coal Team, it can only be concluded BLM is acting arbitrarily and capriciously in establishing the expanded community boundary and imposing restrictions on surface disturbance within that boundary. Salt River Project submits the action recommended on page 2-11 in Chapter 3 is improper and should not be implemented and included in the Environmental Impact Statement.

3. In Appendix A-1, "Tract Summaries", Hageezi Tract, reference is again made to Pierre's Ruin Community and the potential for surface disturbance. As stated in Item 2, above, Salt River Project has been and is continuing to work with the Federal Agencies to protect this site. Either the statements made in this section should be deleted or another statement added indicating these efforts to protect the site.

In addition, reference is made to a known Navajo homesite. One of the homesites, a large house located on the NW 1/4, Section 14, T14N, R14W, has been occupied by a female, Anglo artist who has rented it from a Navajo residing in a home south of the Hageezi Tract. The discussion of this homesite should include the following facts: it is not occupied by a Navajo family, the Navajo family lives to the south of the tract, and this house is one of the "unauthorized occupancies" being considered in the Navajo Land Exchange.

As to the statement, "The Navajo Medicine Men have stated and formal mining is still just like surface mining where it is destroying or scattering Mother Earth.", Salt River Project submits this statement is inappropriate to the

March 31, 1981
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discussion of the Hageezi Tract and interestingly enough is not found in the discussion of other underground tracts with the exception of Kimbeto #1. The number of Navajo Medicine Men making this statement is not specified and also the place of residence and interests of the Medicine Men are not specified. Salt River Project has met individually with each resident on the Hageezi Tract and met with interested parties at the Huerfano Chapter House to discuss our activities at Hageezi. If opinions are to be listed in the discussions of tracts, the opinions should be those of the residents, not those of Medicine Men who may not have an interest in a specified tract. In addition, the statement is included without any supporting evidence as to the context in which it was made. Since obviously underground mining is not "just like" surface mining, the context in which these statements were made becomes necessary to understand their meaning.

Salt River Project appreciates the opportunity to comment on the Draft San Juan River Regional Coal Environmental Impact Statement, and we look forward to our continued involvement.

Very truly yours,

Darrell E. Smith
Darrell E. Smith,
Manager, Fuels Department

DES/jb

Comments on "Draft San Juan Basin Cumulative Overview"

by Dr. John Bartlit, Chairman

New Mexico Citizens for Clean Air & Water

The subject document is incorporated by reference into three other, related Environmental Impact Statements, namely the San Juan River Coal Leasing Environmental Impact Statement; the Bisti, De-na-zin and Ah-shi-sle-pah Wilderness Study Areas Environmental Impact Statement. Therefore, the following comments apply as well to those documents.

1. A principal objection to the draft overview stems from the definition formulated therein for deciding whether increases in total suspended particulates are "significant" or not. The definition used (p. 3-2) is: "Any increases in TSP concentration that would result in the concentration at any location being in excess of state or national ambient standards for that location were considered to be significant." This unique equating of "significant" increases only with violations of standards carries with it many intrinsic distortions of both fact and law. For example, the concept of preventing significant deterioration of air quality (PSD), which is found throughout the Federal Clean Air Act, becomes a meaningless concept when "significant" is defined as "exceeding ambient standards." Furthermore, this definition ignores the extremely significant and damaging effects of TSP that occur at concentrations far below the state or national ambient standards. We refer, of course, to the severe reduction of visibility that occurs at concentrations well below standards. The attached

Table 3-1 and Figure 3-7 (Exhibit A) taken from Air Quality Criteria for Particulate Matter by the U. S. Department of Health, Education and Welfare unequivocally document this fact. The lowest state or federal ambient standard for TSP is an annual average of $60 \mu\text{g}/\text{m}^3$. The attached table and figure show this concentration of TSP results in a visual range of about 12 miles, possibly as low as 7 miles or as high as 25 miles. Any of these numbers represents severely impaired visibility in the scenic Southwest, where vistas of colorful and unique land formations out to 70 miles are both common and highly valued by residents and tourists from all over the world. The fact that visibility is partially dealt with in other ways in the Environmental Impact Statement does not permit one to define such very severe impacts of TSP as being not "significant."

2. The draft overview does not calculate or present values of TSP within 1 km of mine boundaries (see, for example, Figure 3-1, p. 3-4). We are aware of no justification in the law to allow this free exemption from clean air considerations in a 1 km zone around sources unless all such land is within company property boundaries. We do not see that this is necessarily the case for all points of concern to the Environmental Impact Statements.

3. A number of mitigating measures are mentioned throughout the draft overview (for example, p. 3-7, 3-10, 3-13, 3-16, etc.). Each of these paragraphs lists suggested measures that "can be" or "could be" done to alleviate environmental problems. However, nowhere does it state these steps will be done or who will assure

(enforce) that they are done or even in some cases who, if anyone, has authority to require them to be done. The mitigations obviously are meaningless unless they are actually performed.

Jim R. Bartlett

4-1-83

Attachment: Exhibit A

Comments of New Mexico Citizens For Clean Air and Water on New Mexico Generating Station Draft Environmental Impact Statement, Air Quality Discussion

by Dr. Michael Williams

The air quality discussion in the New Mexico Generating Station (NMGS) Draft Environmental Impact Statement (DEIS) is most disappointing. Briefly, the modeling uses outdated or inappropriate techniques, the meteorological inputs are inappropriate and not adequately explained, and the explanations of air quality modeling results are misleading or inadequate. Contrary to conclusions implied by the report the NMGS will produce frequent visible plumes and damage the growth of plant species over a large area. Furthermore, particulate standards will be exceeded in the region. Many important air quality questions, such as increment consumption, cannot be addressed because air quality modeling is based on entirely inappropriate models. The entire air quality analysis should be redone with more attention to input data and emphasis on current state of the art models rather than outdated or misleading models.

Modeling Deficiencies

One of the most disappointing aspects of the modeling is the use of high terrain model RTDM. This model apparently continues to use 35% plume override (p. E-7 air quality technical report) during stable conditions with an effective plume height near the dividing streamline height. This plume override results in very

low concentrations on high terrain below the plume. Some years ago the 35% override was advocated by industry representatives and specifically, investigators with ERT. However, under the auspices of the National Commission on Air Quality's panel on Atmospheric Dispersion agreements were reached among modelers and the 35% override was dropped. (Chandler et al., 1980) Specifically ERT's premier model theoretician, Dr. Bruce Egan, agreed that the 35% figure was not appropriate in the Four Corners region.

Following the panel's recommendations a new model was devised for the southwest. The model gave very good results when sufficient data was available for comparison (Williams, et al., 1981; Williams, et al., 1982) There is no longer any excuse for using outdated models such as the RTDM.

Both RTDM and Complex I assume a very strange form of horizontal dispersion. They assume that all of the emissions during an hour period are uniformly distributed across the downwind 22.5° sector with no contributions outside of the sector. In circumstances where a sector is properly monitored the measurements usually show rapid variations within the sector. In a careful comparison the sector averaged model badly underpredicts maximum concentrations. (Williams, et al., 1981 and Williams et al., 1982) Both RTDM and Complex I are thus inappropriate for modeling high terrain impacts because they are likely to underestimate concentrations on high terrain.

The inputs used for high terrain modeling are also inappropriate. Winds at the 60 meter height are very likely to be

drainage winds during nighttime conditions. Drainage winds tend to be more turbulent than plume height stable flow. The actual plume is likely to be imbedded in more stable flow aloft during times when the 60 meter height is in drainage flow. During stable conditions there will generally be little relation between the 60 meter winds and the winds aloft. The use of a wind speed profile to extrapolate to plume heights is unjustified for stable conditions. Techniques have been developed which are appropriate to modeling plume dispersion in the San Juan basin. (Williams et al., 1981 and Williams et al., 1982). There is no justification for the use of biased and misleading meteorological input.

The flat terrain model MPTER is also inappropriate. First MPTER does not permit partial penetration of a plume into an elevated stable layer. Instead, if the plume height calculated without the stable layer is above the base of a stable layer all of the plume is assumed to be imbedded in the stable layer. Elevated plumes in stable layers contribute little or no concentrations to flat terrain areas. A more exact computational technique is available which permits the amount of plume trapped beneath the stable layer to be calculated. The portion of the plume beneath the stable layer will generally give rise to relatively high concentrations on flat terrain. The NCAQ dispersion panel recommended that such adjustments be made in F-Corners modeling work. (Chandler et al., 1980)

MPTER also suffers from another important deficiency in that it uses the Pasquill-Gifford stability categorization scheme.

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EIS uses averaged data from three airports. The averaged data is unlikely to bear any relation to the actual winds which will occur at the individual mines. The actual winds will be dominated by local terrain effects. For example, two parcels are up canyon from portions of Chaco so that nighttime winds will carry strip mine particulates directly into the park.

The treatment of stagnation is ludicrous. The whole point of a stagnation situation is that material builds up over time because the net transport wind is near zero. The modeling reported in the EIS used a simple short term gaussian which completely ignores the fact that the winds are not steady. In an actual stagnation concentrations slowly build up over time. Some of the worst situations in the San Juan basin occur because of stagnation which may last for a week. The modeling in the EIS entirely missed the point on stagnation.

Visibility

The visibility modeling is based on the SAI model which is purported to be conservative. Actually the SAI model has had very little testing and the uncertainties in the input parameters were such as to overwhelm the differences between measurements and predictions.

Unfortunately it is not clear exactly how the input data was prepared for the SAI model runs, so one cannot properly assess the results. However experience suggests that with the planned NO_x emissions the NMGS plume will be visible on most mornings. On occasion the plume will be very intense. I have observed a very dense plume from the San Juan plant while it was running at only 300 MW or so capacity and the NO₂ was very

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Recently investigators with Martin Marietta Corporation have developed a much improved technique which gives much better agreement with measurements. (Weil and Brower, 1982). Their model also incorporates the more exact treatment of plume behavior during trapping conditions described earlier. I have attached a copy of the relevant work as an appendix.

The results of a comparison with measurements showed very poor predictive capability for the MPTER scheme. Specifically there were many instances when the modeled concentrations were either zero or less than 1/1000 of the measured concentrations at times when significant concentrations were measured. The problems with the model were associated with improper stability categorization and no adjustment for partial penetration of elevated stable layers. The principal result of this poor modeling technique is to greatly underestimate the frequency of moderate concentrations. The result is that the annual average and the 24 hour average second highest concentration will be underpredicted.

The modeling for the strip mine uses a sector averaged dispersion. There is no reason to use sector averaged dispersion. Low level emissions provide one of the few circumstances which correspond to the measurements upon which dispersion parameters are based. Sector averaging will bias the results towards underestimates of actual concentrations.

Another difficulty with the strip-mine modeling is the fact, that a consistent set of input data has not been used for all the mines. The NMGS uses one set of data while the Cumulative Impact

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evident.

In addition to NO₂ brown plume there will also be times when the units are in start up. At other facilities start up plumes are very dense. This effect apparently was not discussed at all in the EIS.

Incidentally, as far as I am aware there is no experience with the SAI model at distances appropriate to the distance from the NMGS to Mesa Verde. Brown plumes from modern power plants can persist for distances on the order of 100 kilometers.

Effects

Probably the most important effect on plants has been entirely overlooked in the EIS. At relatively low concentrations (.01 ppm for ten minutes) the stomata of plants open. (Unsworth, et al., 1972) This causes the plant to lose moisture at an accelerated rate. For most of the vegetation in the region water is the limiting nutrient. The effect of SO₂ at the levels modeled will be to waste moisture and then reduce the overall plant growth. This reduced growth will not be identifiable by the techniques used by Hill et al. (White et al., 1974) who look for SO₂ burn as opposed to the effects of drought-stress. However, at other power plants where crop growth has been carefully measured significant declines in production were associated with power plants operation despite lack of visible damage.

In addition to the dehydrating effects of the SO₂, the combined SO₂ and NO₂ will also damage vegetation. (White, et al., 1974; Houston and Dochinger, 1977; Bull and Mansfield, 1974; Bennet and Hill 1974; Tingey et al., 1974) Hill has measured this

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in the laboratory. His failure to find it associated with the Four Corners operation is not relevant in the case of the NMGS. In the case of the Four Corners operation the SO_2 levels were generally much higher than the NO_2 while the synergistic effects are expected when the two gases are about the same level. In the case of the NMGS and future operations of Four Corners and San Juan the NO_2 and SO_2 will be about the same level. Consequently effects will be expected.

My review of the EIS pinpoints the following major deficiencies in the draft. First, the modeling is based on outdated techniques which can not provide an adequate estimation of environmental impacts. Second, the meteorological inputs are such as to bias productions toward underestimation. Third, the visibility projections are poorly described and fail to project the frequency of visible plumes which can be reasonably expected based on past experience. Fourth, the important issue of PSD increment consumption has not even been dealt with and the final design of pollution control equipment is not described. Finally, the most important effects of the contaminants on plants have been entirely ignored.

In conclusion, I would like to say that I strongly believe in the importance of a good EIS to allow society to make informed decisions on its future. In order for the EIS to properly perform its role it must provide a complete, unbiased description of future impacts based on current scientific information. Unfortunately this draft EIS, in contrast to the ideal, provides only biased, incomplete picture of the future based on techniques which were rejected as inadequate years ago. I hope that the BLM will pro-

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duce a final EIS which does not have the ^{glaring} flaws.

I have attached copies of my credentials as an appendix.

- 8 -

Salt River Project

WATER → POWER

BOX 1000 PHOENIX ARIZONA 85001

TELEPHONE 273 5600

March 21, 1983

State Director (934A)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir:

RE: Draft Environmental Impact Statement on Public Service
Company of New Mexico's Proposed New Mexico Generating
Station and Possible New Town - NM 30840 EIS 1792.73 (934A)

The Salt River Project Agricultural Improvement and Power District (Salt River Project) is a political subdivision, organized and existing pursuant to the constitution and laws of the State of Arizona, and provides electric power and energy to some 330,000 residential, commercial, industrial and agricultural customers in Maricopa County and portions of Pinal and Gila Counties. Salt River Project has reviewed the above-referenced document and offers the following comments related to the transmission line (alternative T1) and the possible new town.

Transmission System Alternatives

In the discussion of the various transmission system alternatives, particularly the discussion of alternative T1, no mention is made of the Nageezi Tract (an identified Federal coal leasing tract) and the impacts of alternative T1 on the tract. The corridor of T1 overlays the Nageezi Tract between Milepost 10 and Milepost 15.5. Even though the Nageezi Tract is identified as an underground mine, a transmission line located on the surface would impact the tract's mineability and the recoverable coal resource. This impact should be included in the discussions of T1's impact on mineral resources throughout the draft. In addition, Corridor T1 overlays portions of three (3) State of New Mexico coal leases currently held by Salt River Project between Mileposts 10 and 15.5. The draft should include T1's impact on these leases.

For the above reasons, Salt River Project concurs with BLM's preferred alternative which does not include the use of Transmission Corridor T1.

State Director (934A)
March 21, 1983
Page 2

Possible New Town

In the discussion of the Affected Environment, Mineral Resources, on page II-1, no mention is made of the Nageezi Tract. As stated above, this tract has been delineated in the San Juan River Region Coal Leasing Process. A portion of the townsite overlays this tract and therefore reference to the Nageezi Tract is warranted. The same holds true for the mineral resources discussion on page III-2 in the Environmental Consequences chapter.

Salt River Project appreciates the opportunity to comment on the above-referenced draft.

Very truly yours,

Darrell E. Smith
Darrell E. Smith,
Manager, Fuels Department

DES/jb

New Mexico Archeological Council
c/o Quivira Research Center
3017 Commercial NE
Albuquerque, NM 87107

April 5, 1983

State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Dear Sir:

New Mexico Archeological Council (NMAC) has reviewed the Draft San Juan Basin Cumulative Overview dated November 1982 and has the following comments:

The Bureau of Land Management has done a commendable job of outlining the legal considerations that must be adhered to before cultural resources can be disturbed. The Bureau has also recognized the importance of the regionally integrated system developed by the prehistoric Anasazi within the San Juan Basin.

NMAC regards the comments on page 2-42 of the CO Technical Report as particularly astute. We have repeatedly undergone the frustrations of dealing with the Advisory Council of Historic Preservation in remote Washington, D.C. NMAC would welcome the opportunity to participate in a cultural resource management structure that would be more broadly based than the present interagency management group. (As an example, NMAC possesses information on several sites between Kin Indian Ruins (p. 2-21 of the CO) and Pueblo Alto within Chaco Culture National Historical Park. The visual integrity and, possibly, the scientific value of these sites is sure to be impacted in a cumulative fashion by the proposed Bisti-Star Lake railroad, PNM's preferred transmission line from NMGS to Albuquerque, and the National Park Service's proposed new access road to CCNMP. These impacts and others like them should decidedly be considered in the final version of the CO.)

In spite of its laudable characteristics, we feel that the CO has some serious deficiencies. Some of these deficiencies result from inadequacies in the three EIS's on which this document is based. It would be redundant to rehearse our concerns about cultural resources and Native Americans here, but see NMAC comments on the three documents. Other deficiencies stem from the fact that the CO should have been an EIS. The planned actions for the San Juan Basin will result in alterations so massive that full-scale EIS treatment is an obvious need.

We appreciate the opportunity to comment on this document.

New Mexico Archeological Council

cc: Congressmen Domenici, Lujan, Skeen, Bingaman, Richardson

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Pages 2-29, traditional values and lifestyles. To confine Native American concerns to matters that fit under this rubric is to suggest that Navajos have no property or other material interests that the proposed project might affect. But Navajos live, herd, farm, and get water around the NMGS site and the NMGS could well disturb these patterns of land use. Moreover, data on the number of local Navajos who could work at NMGS are an economic interest to Native Americans--the subject is not addressed here or elsewhere. The section doesn't adequately treat even the narrow range of Native American concerns that it recognizes. Further, it contains many potentially false assumptions (such as statements about matrilineal residence). Graves and other sacred sites in the project area should be discussed here. They are mentioned under cultural resources but are also part of Navajo tradition and are, therefore, appropriate here.

The last paragraph on p. 2-20 mentions local Navajo opposition to NMGS, but does not recognize that part of the opposition may stem from fear of disturbance of land-use patterns and destruction of property (theft of livestock and other items, vandalism to homes, etc.), which many Navajos have experienced when energy development has encroached on them.

Water supply system and transmission lines sections. The proportions of areas covered by cultural resource inventory surveys should be stated and projections of total number of sites given. Types and significance of sites located should be discussed.

The section on social and economic conditions should show how many people use land in the rights-of-way and for what purposes.

Chapter 3, Environmental Consequences

Page 3-24, social and economic conditions. This section should specify impacts on people living around the NMGS site--how many might be employed, possible disturbance to land-use patterns (grazing, farming residence, water use), and increased traffic and theft.

Page 3-27, traditional values and lifestyles. This section should specify impacts on neighboring land users, gravesites, and sacred sites.

Water supply system and transmission lines. Social and economic impacts on land users in the rights-of-way should be specified. Navajo stockraisers have historically opposed transmission lines because of potential disturbance to land and land-use patterns. Another impact that should be discussed is the issue of public opposition: How have local chapters reacted and why.

The effect on humans and animals of the electric field near the generating station, transmission lines, and substations should be discussed. The issue was raised by an official of the

New Mexico Archeological Council
c/o Quivira Research Center
3017 Commercial NE
Albuquerque, NM 87107

April 4, 1983

State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Dear Sir:

New Mexico Archeological Council has reviewed the Draft Environmental Impact State on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town and wishes to make the following comments:

Summary

Page S-11, Areas of Controversy. Several issues are listed, but are said to be outside the scope of this EIS. Most are environmental issues (the availability of water in the already overallocated San Juan River, impacts on wilderness areas and Chaco Culture National Historic Park). Others (Navajo-Hopi relocation lands, Navajo claim to 2 million acres) are issues mentioned as relevant in other EIS's (e.g., the coal-leasing EIS) and therefore are not, by their nature, outside the scope of this EIS.

Chapter 1, Proposed Action

Table 1-7, Summary of potential impacts. The table should include impacts on cultural resources and specific Native American concerns.

Chapter 2, Affected Environment

Page 2-27, ff., social and economic conditions. Specific data on rural areas around the New Mexico Generating Station (Navajo Chapters) are available in a 1974 study by Brigham Young University, on file with the Navajo Tribe, and in the 1980 census. These data concern most of the topics covered here for the region in aggregate and should also be presented. Local data should include population, income, employment, housing, education, and human services. Employment and labor force composition data are especially important, because they can be used to estimate the number of potential local Navajo employees. These data should be, but are not, included in Chapter 3, Impacts.

Data on Thoreau, Crownpoint, and Shiprock should be included. Crownpoint, and possibly Thoreau, would probably be more heavily impacted than Artec and Bloomfield.

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Canyoncito Navajo Chapter (Cultural Resources Technical Report for the NMGS EIS, p. 8-22,23) and there is apparently some justification for concern (see "The Invisible Threat: The Stifled Story of Electric Waves," by Susan Schiefelbein, Saturday Review, September 15, 1979, pp. 16-20, which cites various scientific studies on the problem).

Mitigating actions. The section on cultural resources should specify treatment of sacred sites and gravesites that might be disturbed. Mitigating actions for disturbance to land users near NMGS and along water and transmission line rights-of-way need to be addressed. What can be done to mitigate possible increased theft and vandalism near NMGS, especially in view of the current jurisdictional dispute between state and tribal police?

We appreciate the opportunity to comment on this DEIS.

New Mexico Archeological Council

cc: Congressmen Domenici, Lujan, Skeen, Bingaman, Richardson

New Mexico Archeological Council
c/o Qulvira Research Center
3917 Commercial NE
Albuquerque, NM 87107

March 31, 1983

State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, NM 87501

Dear Sir:

New Mexico Archeological Council (NMAC) has reviewed the San Juan River Regional Coal Draft Environmental Impact Statement and has found the Cultural Resources and American Indian sections of this document do not meet the purpose of the National Environmental Policy Act of 1969 as implemented by 40 CFR 1500. These sections also fail to meet other relevant acts, regulations, and manual directives as enumerated below. NMAC requests that the following inadequacies in the level of archeological and Indian cultural data be corrected and that a revised DEIS be resubmitted for public review.

Visual D and Appendix F, Table F-1

1. Households and dwellings are undercounted, at least in NM-8128. These families also have cornfields and dams, which are not counted among the improvements. This same is probably true of other PRLA's.

2. The number of PRLA's with Navajo occupants counted is only a small portion of the total PRLA's and covers only perhaps 20-25% of the total PRLA acreage. Nearly all PRLA's listed with occupancy data are in McKinley and Sandoval counties, whereas only two PRLA's in San Juan County are tabulated. The missing PRLA's are: NM-2457, 11670, 8129, 3919, 8745, 9764, 6804, 3755, 3837, 10931, 3835, 6803, 7235, 3754, 3752, 3753, 3835, 3838, 3834, 6802, 11916, 0186612, 0186613, and 0186615. There are Navajo occupants on these tracts.

Page ix of the Introduction (para. 2, next-to-last line) says 55 families will be disturbed by PRLA's. This would seem to be the 55 dwellings tabulated for the 39 households listed in Table F-1. Since those families are only a small minority of the total, the PRLA impact is grossly underestimated.

Visual D and Appendix F, Table F-2

1. Data are not tabulated for occupancy on the following competitive lease tracts: Bisti 4, Bisti 6-8, Bistets 2, Gallo Wash 1, Star Lake West 2, Bress Springs 2, Chaco Wash South, Lee Ranch (east, middle, and west), Hoshup 1, Hoshup 2. Navajos live on or use some, if not all, of these tracts. According to Visual A, Bisti 4 contains some Indian withdrawn land, Bisti 6-8 contains Indian Allotted land, Gallo Wash 1 contains Indian withdrawn land, Bress Springs 2 contains Indian Allotted land, and Hoshup 1 contains Indian Allotted land.

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an assessment of how many surface owners will refuse consent and what possible subsequent actions will result, including the magnitude of forced relocations.

Authorities for Coal Leasing and Development, p. 1-7, para. 5. "All of the subject lands will be required to be inventoried for cultural resources." It should be pointed out that this vague wording allows the possibility of sample surveys based on predictive models, a management method proposed in the new federal coal draft PMOA. The result will be that higher proportions of unrecorded, significant cultural resources will be destroyed during mining than under the old 100% inventory surveys. The extent of such unmitigated destruction under the new PMOA needs to be addressed, lest the vague wording lull the public into interpreting "inventory" as 100% survey.

Social and Economic Factors, p. 1-21, American Indian Concerns. The DEIS states: "One of the major issues in this EIS is the relocation of occupants." Nowhere, however, is the impact of relocation concretely addressed. BLM should provide a concrete and detailed examination of this subject, as Navajo relocation from coal mine leases and other large tracts has been going on for an entire generation and studies of the effects are available. There is material on the McKinley Mine (relocations began in 1961), Black Mesa, Burnhams, NIIP, and UII Navajo Mine. BLM people should also do field work of their own. Moreover, this paragraph refers to relocation as a "social" or "lifestyle" issue, words that minimize its economic impact and make it easier for the government to avoid compensating people for losses of property and future income. Appendix F contributes to this impression by underenumerating the dwellings and other improvements owned by potential relocatees and by completely ignoring people who use the tracts but live outside their boundaries. The EIS should provide estimates of the value of losses of real property and foregone income.

Page 1-22. The interaction of the Navajo land selection with the coal leasing should be addressed both qualitatively and quantitatively in the EIS, just as the interaction with the proposed Santa Fe Mining Company mineral rights consolidation is to be addressed. In addition, the interaction with the Navajo Tribe's suit to regain acreage in the 1907 and 1911 executive order restorations should be addressed.

Page 1-25, livestock and grazing improvements. Throughout the DEIS, it is assumed that all the land can be reclaimed, yet there is no basis for this assumption. The National Academy of Sciences produced a study in 1974 that suggested that reclamation in areas receiving less than 11 in. of precipitation a year would be very uncertain. The area of most of the leases receives less than 9 in. a year. The EIS should offer a more realistic estimate of the percentage of each tract that is reclaimable.

Page 1-26, land uses. Throughout the DEIS, the land uses of grazing, turning water use for stock, water use for domestic purposes, and residence are ignored. These are the most common

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2. Appendix F also fails to enumerate nondwelling facilities of Navajo residents, including corrals and outbuildings, fences, improved water sources, and cornfields, and thereby minimizes the potential loss of property to these families.

3. Appendix F does not enumerate families who use the PRLA's or competitive leases but do not maintain homesites on them.

4. The families on PRLA NM-8129 obtained the right to live there through a land exchange with a white rancher who leased the present PRLA tract. The exchange was reportedly negotiated with BLM involvement and is on record in Santa Fe, according to a member of one of the families. Yet these families were listed as unauthorized occupants in the BLM's 1976 occupancy census, which is presumably the basis for the data in Table F-1.

Appendix H

The effectiveness of this letter as a means for owner consultation is questionable, for the following reasons:

1. Many elderly, illiterate people are suspicious of written communications and must have someone explain the intent of the document. Younger, literate family members would be perplexed by this letter, too, and many families may have decided to wait until they are contacted in person by BLM personnel. Sending a letter by registered or certified mail, which requires the recipient's signature, seems guaranteed to scare many people off, since they may fear they would be committing themselves to the contents of the letter before they have a chance to learn what it says. BLM should recognize that when non-English-speaking people must be contacted, the appropriate action for BLM to take in such a unique situation is to make personal visits accompanied by Navajo-speaking interpreters.

2. One NMAC reviewer is personally acquainted with a family in which one of the members received a similar letter concerning an allotment adjoining one of the competitive lease tracts. The person who received the letter is a minor and is one of about 30 heirs to the allotment. Some--perhaps all--of the other heirs failed to receive letters.

Chapter 1

Page 1-3, Program Implementation to Date. Surface owner attitudes need to be portrayed: How many surface owners are there in total, how many have been contacted, how many have responded, how many have consented to mining and under what conditions, how many have refused, how much weight on the refusal carry? Figures in Ch. 4-4 indicate only the number contacted, responses, consents, and refusals. Only a small minority (240 responses to 1,143 letters sent) have even responded. Two hundred forty responses do not constitute a sample adequate to show the attitudes of surface owners. Further, non-response is more likely to indicate refusal than consent (see comments under Appendix H, above). The EIS should include

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land uses on the tracts and should be addressed in this section.

Page 1-26, social and economic factors. The EIS should include employment figures for local Navajos (people living near the tracts, not in Farmington or Cuba). The EIS should also estimate different levels of Navajo employment with and without Navajo preference. The EIS should address the issue of population increases in rural areas near the leases outside of Farmington and Cuba. Further, Gallup should be included in assessments of all alternatives.

Page 1-27, American Indian concerns. Again, the number of families to be relocated is underestimated. Loss of future income and value of lost property should be estimated.

Page 1-27, gravesites and sacred sites. Disturbance of graves may result in illness among members of the family of the deceased, and has nothing to do with witchcraft unless the person disturbing the grave is a witch. It is not always possible to reduce or eliminate the effects of disturbance of graves and other sacred sites through a ceremony. Even when it is, ceremonies cost a lot in both cash and goods. The cost of such ceremonies should be estimated. Moreover, many Navajos are Christians, who do not believe that effects of disturbance can be mitigated by ceremonies, but, like many whites, still do not want family graves disturbed. Finally, the EIS should make explicit that the inquiries made to date about graves and sacred sites cover only a tiny portion of the area to be leased and probably underestimate the number of graves even in the area investigated.

Page 1-34, para. 1. Re "Revegetation efforts on coal mines in similar areas"--the only successful effort known to NMAC reviewers is the McKinley Mine, which receives 50% more rain than most of the PRLA's and competitive lease tracts.

Chapter 2, Affected Environment

Page 2-21, water use. The EIS should indicate how many of various types of improved water sources are on each lease tract, how many people use each, and for what purpose. Chapter 3 should then show the impact of loss of these water sources.

Page 2-24, livestock grazing. The EIS should show how many families use the lease areas, for how many head of stock, and for what type of stock. Data are available from grazing permits--estimates from grazing permits might be inaccurate but they would be better than nothing.

Page 2-25, ff., cultural resources. This characterization is inadequate. It should also discuss site types and significance in terms of National Register criteria as given in the archeological survey reports. Predictions are unlikely to be accurate; one source used here (Kenner 1981) incorrectly identifies most of the historic period sites.

Page 2-26 of the DEIS states that "...231 sites have been recorded on the competitive coal lease tracts containing federal coal or federal surface...[but] sites predicted to occur in areas of private coal are not included." This evaluation procedure is contrary to the BLM Cultural Resources Manual Directive 8100.07, which reads:

"A. The Bureau assures that its actions or authorizations take into consideration their effects on cultural resources located on non-Federal land.

B. The Bureau undertakes, or has undertaken, the inventory and evaluation of cultural resources on all non-Federal lands within the area of potential environmental impact by a Bureau project or Bureau-authorized action. The level of inventory required depends upon the type of action being considered and the nature of the cultural resource involved."

C. The Bureau mitigates, or has mitigated, direct effects upon non-Federal cultural resources caused by Bureau projects or Bureau-authorized actions."

BLM's failure in this DEIS to provide complete information on all inventories and all known and predicted sites on the competitive lease tracts gives a seriously misleading impression of the extent of the impact to archeological resources. For example, Table 2-9, p. 2-27, shows a 100% inventory--but no known or predicted sites--on the Catalpa Canyon Tract. The tract summary on p. A-28 shows that the 1,040-acre tract contains 120 acres of federal coal. What the Catalpa Canyon tract in Table 2-9 apparently means is that all of the 120 acres of surface overlying federal coal have been 100% inventoried and that no sites were found or predicted on this portion--which represents 11.5% of the total tract.

The DEIS contains no data on the identity of archeological contractors, titles and dates of inventory reports, or the source of funding for inventories performed on the competitive lease tracts. In addition, with the exception of Kemmer, 1981 (see p. 2-27), there is no information on which inventories were used as a basis for site predictions. The majority of inventories in the San Juan Basin have been performed by archeological contractors hired by private energy companies. Some of these inventories have been funded by responsible companies and the work has been conducted by highly trained professional archaeologists. In other cases, the level of inventory has been so poor that the data are worthless for any scientific purpose. The lack of bibliographic sources makes it impossible for the archeological community to make any professional evaluation during the SJMRC DEIS comment period about the probable scientific quality of the existing inventory data on these tracts.

Even more serious than the handicap to NMHC is the handicap this lack of information imposes on the State Historic Preservation Officer (SHPO). The SHPO is required to make recommendations to

-The Zunis are reported to have active sacred sites in the area between their northern reservation boundary and Gallup.

-Approximately 5.6 mi. of the 20,400-acre Pinehaven Tract abut the northern Zuni Reservation boundary.

-The surface-mineable Pinehaven Tract intercepts approximately 1.75 mi. of State Highway 32, the principal route between the Zuni Reservation and Gallup. (State Highway 32, which is not shown on any visual in the DEIS, also serves as a principal tourist route to El Morro National Monument. The federal government has recognized the cultural significance of El Morro for nearly 80 years.)

The DEIS contains no evidence of written contact, public meetings, or official transmittal of the DEIS to the Ute Mountain Ute Tribal officials, even though--

-The four La Plata tracts may block access between the reservation and the La Plata River for a distance of more than 2 mi.

-Surface-mineable tracts lie within approximately 1 mi. of the Ute Mountain Ute Reservation boundary.

There is no evidence of any written contact, public meetings, or official transmittal of the DEIS to Navajo Chapter officials of Tsayaton, Church Rock, Bread Springs, Red Rock, Chi-chil-tah or Becenti Chapters, even though--

-The 39 residences on the three Gomerco tracts and the 48 residences on the two Samson Lack tracts probably belong to members of the Tsayaton Chapter.

-The 17 residences and an unknown portion of the 150 mobile homes on the Hogback tract probably belong to members of the Church Rock Chapter.

-The seven residences on the Sundance tract, the 17 residences on the Bread Springs #1 tract, seven of the residences on the Tan-ha-bah Well tract, and 96 of the residences on the F nehaven tract probably belong to members of the Bread Springs Chapter.

-The 93 residences on the Twin Buttes tract and 14 of the residences on the Tan-ha-bah Well tract probably belong to members of the Red Rock Chapter.

-The 25 residences on the Crownpoint East tract and 14 of the residences on the Crownpoint Northeast tract probably belong to members of the Becenti Chapter.

the appropriate federal agency on the level of inventory still needed on all or portions of a leased tract prior to surface mining. The SHPO must be furnished with sufficient bibliographic information to locate relevant inventory reports and determine whether scientifically valid inventories have actually been performed on acreage cited as having been inventoried.

The Cultural Resources section contains no mention of whether any sites on the competitive lease tracts, except for Pierre's Ruin Community, are on or eligible for the National Register. This is a major omission in the DEIS, since sites eligible for the National Register shall be considered unsuitable for surface mining under the provisions of 43 CFR 3461.1.

The Chaco Roads Project has been cited by BLM in half a dozen draft and final environmental documents on the San Juan Basin over the past two years. A January 1983 presentation by BLM at a NMHC meeting indicated that this project has recorded valuable new data on the prehistoric road network. As of this date, BLM has not released any published information on the Chaco Roads. This has made it impossible for NMHC to assess the significance of mining impacts to the Chaco Road system during the comment period on the SJMRC DEIS.

Page 2-35, ff., demography. Population figures are available for rural areas by chapter and should be given here as well as in the Native American concerns section.

Page 2-42, ff., American Indian concerns. These data are based on the wholly inadequate population and property estimates in Appendix F. Moreover, this whole section minimizes the property improvements owned and used by these people--dwellings, outbuildings, corrals, water, fences, fields. The EIS should quantify income sources. Data are available for 1974 (Brigham Young University Small Business Feasibility Study, on file with the Navajo Tribe) and from the 1980 census. What percentage of families' income derives from wages, public assistance, retirement, livestock (wool and livestock sales), rugs, jewelry, other handicrafts, etc.? What is the level of occupational skills in the population that could qualify them for jobs in the mines?

The EIS should explicitly state that only a tiny proportion of gravesites and other sacred sites have been identified.

The DEIS contains no documentary evidence to support the statement on p. 2-42 that BLM has made initial contact with the Zuni Tribe to notify them of potential leasing in the area. The record of Consultation and Coordination in Chapter 4 does not identify any meetings with Zuni Tribal officials nor any public meetings held on the Zuni Reservation. Further, the Zuni Tribal Government is not listed as an official document recipient in Table 4-1, p. 4-6, even though--

Chapter 3, Environmental Consequences

Page 3-4, ff., Impacts--No Action Alternative. Cultural resource impacts should be addressed here but they are not.

Land uses. The EIS should either call this section "Rights-of-way" or should assess impacts on grazing, water, use, farming, and residence.

Social and economic factors. Employment section should estimate as closely as possible the proportion of surface mine jobs that would go to residents of the region--not merely assume that the proportion would be 50%. If 50% is a rational estimate, the empirical basis for the figure should be specified. Moreover, the number of local Navajos who could be hired should be estimated, both with and without Navajo preferences. These estimates could be made by estimating skills in the rural population (including residents away working) from the Brigham Young study, the 1980 census, and field interview data, and by comparing the percentages of Navajos in preference (e.g., McKinley Mine) and non-preference (e.g., Carbon Coal) mines.

Infrastructure and demography sections. These sections need to include impacts on rural areas--the Navajo Chapters where the mines are located.

American Indian concerns. Again, employment among local people should be quantified.

The whole issue of relocation is drastically minimized. The economic cost is not considered (lost income and property). "Psychic" costs of relocation can be aggravated by the types of developments people are relocated to. Data are available from the McKinley Mine, Black Mesa, and other areas on just what happens when people are relocated in different ways. These ways include being kicked off without alternative housing (which seems to be the plan here), receiving poor quality housing in crowded enclaves, individual relocation on individual tracts, etc. The impact on families already living in the area where people are relocated must also be considered. Finally, most people will be required to sell their stock permits and reduce or get rid of their stock. The EIS must consider the question of what percentage of these families, or their descendants, can realistically return to stockraising on the reclaimed land. This estimate must recognize the percentage of land that cannot be reclaimed, the alteration in carrying capacity imposed by the changed distribution of stock water, and the difficulty that people will have living on reclaimed land that is so difficult to drive across in all but the driest weather that many areas will be virtually inaccessible.

Estimates should be provided on changes in income by source and expenses incurred for ceremonies to minimize the effects of gravesite and sacred site relocation.

Figures on the number of families, sacred sites, and gravesites impacted are too low. Further, the portrayal of property destroyed minimizes the probable extent of destruction.

Page 3-29. If people are not to be reimbursed for destroyed fences, corrals, and grazing suspension, the public has a right to be told why not.

Cultural resources. The comments on cultural resource coverage in Chapter 2 also apply here. The EIS should show how many sites of various types will be destroyed, and the significance of these sites.

Mitigating measures, p. 3-50, ff.

Livestock grazing. How many stock belonging to how many families can realistically be relocated during mining? How many families must unavoidably lose some of their stock? How much income will be lost, and why can't these families be compensated?

To assume that the reclaimed land will be the same as before is unwarranted. Some percentage will not be reclaimable. The EIS needs to estimate how much that will be, how many AUM's the reclaimed land will support, and concomitant changes in AUM's allowing for changes in water and reduction in grazing land. How will the distribution of water sources change? Families may not be able to replicate current residence and grazing patterns because of changes in range quality, water distribution, and inability to make lasting roads over reclaimed land. What mitigating measures are proposed for these changes? How many families will be permanently displaced under various mitigation regimes?

Land use. What mitigation measures are planned for impacts on range use, homesites, water sources, and fields?

American Indian concerns. The particulars of relocation need to be spelled out here. How are people to do without their lost property and income if they are not compensated? How are impacts on occupants of the relocatee target areas to be mitigated? How are impacts on graves and sacred sites to be mitigated?

Cultural resources. No mitigating measures are proposed for any resources outside Chaco National Historic Park except Pierre's Site and the surrounding community. A large number of sites potentially eligible for the National Register are likely to exist in the area. These sites need to be identified and protected, tested, or excavated to mitigate adverse impacts.

Unavoidable adverse impacts. This section should include impacts on Navajos from relocation (based on actual case studies), loss of property and future income, permanent loss of land due to the failure of land and water reclamation. The section should also include impacts on cultural resources from destruction of unrecorded sites during mining. Estimates should be included of the number of

We would like to stress that we do not believe the severe deficiencies in this document are chargeable to the BLM staff who did the research and preparation for the document. The nature of the deficiencies indicates that the staff was given neither sufficient time nor resources to prepare an adequate document.

We appreciate the opportunity to comment on this DEIS.

New Mexico Archeological Council

cc: Congressmen Domenici, Lujan, Skeen, Bingaman, Richardson

sites that are likely to be destroyed under various percentages of ground coverage if sample surveys and predictive models are substituted for 100% on-the-ground survey coverage.

Chapter 4, Consultation

Page 4-5. BLM sent 1,143 certified letters to the owners of 130 allotments. Two hundred forty responded; 41 are opposed, as are seven choctaws. Local Navajos will bear the brunt of the impacts and should have some control over what happens to them. Further, they, too, are members of the public for whose benefit BLM is supposed to administer the public lands.

[We apologize for the fact that the following comments are not in numerical order in the body of this letter. They were identified after typing had been completed, but we felt they were of such importance that they need to be included.]

Page 1-13--The statement is made that unsuitability criteria have been applied to the FRLA's and competitive lease tracts. We understand that unsuitability criteria have not been applied to Indian Trust surface.

Page 1-15--Unsuitability criterion 7 has not been applied to Indian Trust surface. Correspondence with the SHFO should be attached.

Page 2-26--The predictive model referenced here raises several questions:

1. Kemmer's 1982 report (p. 70) states that the sample universe was restricted to PRLA areas because of time and budgetary reasons. It states further that the sample universe excluded Indian Allotments within the PRLA areas. In the DEIS (p. 1-69) it is noted that at least one of the original sample units was eliminated from the sample because of an uncooperative leaseholder. The cumulative result is that the reliability of the predictive model is highly questionable.

2. National Register-eligible Anasazi ruins used by Navajos for ceremonial purposes are probably underrepresented in the model. These sites often exist in proximity to Navajo residences on Indian Allotments--lands that were excluded from consideration in the predictive model. The sample unit containing the only such site identified by AGCA-Tech was deleted, thereby preventing its use in the analysis.

The EIS needs to state that these problems exist and that the reliability of the model--and, therefore, the entire treatment of impacts to cultural resources in the DEIS--is questionable.

Page 3-1--Again, unsuitability criteria for Indian Trust surface have not been applied. We are informed that BIA intends to apply unsuitability criteria to Trust surface.



Americans for Rational Energy Alternatives, Inc.

State Director, Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501

April 6, 1983

Americans for Rational Energy Alternatives (AREA), a non-profit citizens group, would like to offer the following comments on the Draft Environmental Impact Statements for the Proposed New Mexico Generating Station and Possible New Town, the San Juan River Regional Coal Environmental Impact Statement, the proposed Wilderness Areas Environmental Impact Statement, and the San Juan Basin Cumulative Overview. These comments are in addition to those given at public hearings held in Albuquerque, New Mexico on January 14, 1983 and in Santa Fe, New Mexico on March 14, 1983.

ECONOMICS

It was apparent from reading the text of the documents that the Bureau of Land Management (BLM) did not secure the expertise of trained personnel to address economic issues such as wages, taxation, present economic conditions of the area and the state of New Mexico, or forecasts related to the New Mexico Generating Station or coal development in the San Juan Basin. Although some attempt was made to list numbers of jobs that would be created by the NMGS and coal development, no attempt was made to put payroll figures with these numbers. Estimated taxes to the state or federal government were not listed. An economic analysis of both the NMGS DEIS and coal development should include average wage for workers, estimated total payroll figures by year, the number of indirect jobs created, and the present area and state unemployment rates.

A CITIZEN'S GROUP FOR ENERGY AWARENESS

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Bureau of Land Management
Page 2

Estimated taxes from development in the San Juan Basin should include estimates of federal royalties plus state royalties, severance taxes, income taxes, conservation taxes, excise taxes, sales taxes, etc.

Notation should be made of New Mexico's per capita income, its major source of tax revenue, the percentage of land owned by government entities, and its five major sources of employment.

In lieu of these figures, the reports spend considerable time addressing recreation and wilderness values and made no mention that federal land is to be used as multi-purpose land. The documents imply that all federal land held in trust by the BLM should be used for recreational purposes and not for ranching or mineral development. The documents as a whole state recreational use of the land as a positive use, and any other uses are stated in negative tones. Specific government regulations defining the scope of the BLM as a management agency for the multi-use of land should be stated in the introduction of each document.

CULTURAL PROBLEMS

The attempt to address cultural values is very poor in all documents. On page 2-27 of the NMGS DEIS is written "The study area contains a multicultural population that is characteristic of northwest New Mexico. Three broad ethnic groups predominate: Anglos, Native Americans and Hispanic-Americans." Page after page in all four documents is devoted to the Navajo. Yet no attempt is made to address the specific concerns of other Native Americans, Hispanic-Americans, or Anglos. What are the positive or negative effects of the projects



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proposed in the DEISs on these groups? What is the population percentage of these groups in the San Juan Basin? What are the other groups' concerns and needs?

Even with so much space used to write about the Navajo, the terms are not clearly defined. What do the terms "American Indian lifestyles" and "values" mean. Do they include the shortened life expectancy, the high infant death rate, the high percentage of alcoholism, the high unemployment rate, etc. among the Navajos or are the authors of the documents using the terms only in a positive context? When making value judgments concerning the Navajos were the hundreds of Navajos employed at the tribes' Navajo Mine in the Four Corners area interviewed to gather positive impacts of coal development to the Navajos?

When stating in the DEISs that Navajos will be moved if certain projects are undertaken, no mention is made that these Navajos are "unauthorized" people living on BLM land, land to be held in trust for all U.S. citizens. This point should be made much clearer throughout the text of the documents.

MISCELLANEOUS COMMENTS

Little space is devoted to nuclear power as an alternative in the NMGS DEIS and this alternative is not accurately evaluated. If there are reasons not to use coal to generate electricity at the NMGS perhaps nuclear power is the answer. This possibility needs to be addressed in more detail.

Only a mention is given to the Santa Fe-BLM land exchange. This attempt to create large single ownership tracts of land in northwest



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New Mexico to assemble logical mining units of coal under a pattern of almost single ownership is one which our organization in theory supports. However, the issue needs to be addressed in greater detail.

The Cumulative Overview state the worst possible scenario in dealing with air quality, water quality, and visual impacts of coal development and the NMGS. It presumes that all coal mines and the NMGS would operate at peak levels concurrently. In addition, all workers would be on the roads in their automobiles at the same time. Neither of these situations will happen. This should be reflected clearly in the DEIS.

The documents tend to make too many decisions which should be made by private industry. An example of this type of decisionmaking by the BLM is contained on page 3-26 of the NMGS DEIS. The document implies that the NMGS should practice Navajo hiring preference. While this plan may be one that the Public Service Company of New Mexico may want to endorse, is it within the scope of the BLM to govern or even suggest such a practice in an EIS? The companies that now hold PERAs or will purchase leases in the San Juan Basin should decide the market issues involved with the mining and selling of coal, and not the federal government. Comments of these kinds should be deleted from the final EIS.

Another issue of concern as addressed January 14, is the question badlands in the San Juan Basin. The DEISs make no attempt to estimate total badlands although this information is available. Two references



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would be a survey of the U.S. Soil Conservation Service ("Soil Survey of San Juan County, New Mexico, Eastern Part," 1980), and a statement by Mr. Edward C. Beaumont, "The Occurrence of Badlands in the Central Portion of the San Juan Basin," given at state hearings on the Gateway Project (hearing before the Director, Mining and Minerals Division, Energy and Minerals Department, June 9, 1982, Farmington, N.M.). We believe the final EIS's should estimate the badland topography that would be disturbed by these energy projects in relationship to total badlands in the area.

In conclusion, all four DEISs could be improved with the expertise of an economist, with a more realistic view of the Navajo issues with equal text devoted to the other cultures which exist in the San Juan Basin, and with the editing of value judgments by the writers of the documents to be replaced with statements of the BLM's authorized scope of operation.

Submitted for Americans for Rational Energy Alternatives, Inc.

P.O. Box 11802

Albuquerque, N.M. 87192

by Pat Wainwright, Executive Director

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April 6, 1983

B.W. Luscher
State Director
Bureau of Land Management
New Mexico State Office
Post Office Box 1449
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COMMENTS ON DRAFT EISS

Dear Mr. Luscher:

I am submitting these comments to aid the BLM in its decision-making process. If you have questions about any of the subjects I discuss please do not hesitate to call me.

My first comment is directed at the Regional Coal Leasing Draft EIS. I would like to specifically address the "need for the action" section in Chapter 1 of the EIS. That section states that the competitive lease sale is necessary to meet the projected demand for San Juan Basin Coal in 1990, 1995, and beyond. I would like to point out that the BLM's projected demand figures are highly inflated. They are based on a Department of Energy study, completed in 1981, which in turn was based on data collected in 1979 by utility companies. Thus the demand figure is based on data that is four years old. As you know, the New Mexico Energy Research and Development Institute recently completed a study which forecast the demand for New Mexico coal in 1990 and 1995. This study surveyed all potential purchasers of New Mexico coal and produced "demand" figures of less than 30 million tons per year in 1990 and less than 50 million tons per year in 1995. As you may also know, even that study included the proposed NMG Station's coal requirements in its 1990 demand figures; NMG now proposes a start-up date of 1995. That, of course, means that the real demand figures are likely to be even lower than the NMGDI study suggested. In any event, the "need for the project" section must be completely revised to take into account any new information about demand that becomes or has become available.

The EIS process in general, including all three EISS, is deficient in that it does not provide for a comprehensive or regional EIS. The draft Regional Coal Leasing EIS does not qualify as such because it does not address the cumulative and synergistic impacts of all the proposed BLM actions in the San Juan Basin. At this point the BLM plans to issue PRIAs, hold a competitive bid lease sale, issue rights-of-way and other permits for the NMGs, consummate a land exchange with PNM to make NMGs possible, and who knows what else. A true regional EIS must be prepared to study the cumulative and synergistic impacts of all these actions. See *Kleppe v. Sierra Club*, 49 L. Ed. 2d 576. One example of the types of questions which must be addressed is: if NMGs is built, how many more acres of land must be stripped to provide how many more tons of coal over the life of the power plant?

Another general problem of the whole EIS process is the fact that BLM did not prepare environmental impact statements on each company's PRIA tracts before it issued requests for final showings from the companies. The BLM's own regulations, at 43 C.F.R. §3430

Page Two - Continued

et. seq., require that an environmental assessment (EA) or EIS be prepared for each PRIA. Only after the EA or EIS is completed should the final showings be requested. The final showings have already been requested and lease stipulations formulated; thus any EA or EIS performed now will be too little, too late. The only study performed before the final showings were requested was an EA on the entire PRIA program in New Mexico. I understand that now an EIS is to be prepared for the entire program; that is necessary but it should have been done a year ago. The whole PRIA process must be started over and done in compliance with your regulations. EISS should be prepared for each PRIA tract before final showings are requested. Otherwise the stipulations in the leases will not be adequate to protect the environmental and cultural, not to mention the human, resources of the San Juan Basin.

The NMG EIS and the Regional EIS both fail to address the sociological and cultural impact of these projects on the local population; the chapters are there but the substance is not. Plenty of information is available from studies of the "burn-town" syndrome in other areas. This information and information from third-world countries which have experienced rapid energy development should be used in an interdisciplinary, detailed approach to the question. Mitigation measures must be addressed and seriously considered; for example, requiring 60% "local-hire" to limit the influx of outsiders to the area.

The EISS should all discuss the potential disruptive effects of the Navajo Tribe's lawsuit to reclaim the area. If the Tribe wins the coal will not belong to the U.S. and the BLM will have no power to lease it. This possibility was ignored in all the EISS. It was not even mentioned in the "alternatives" section as an alternative of "wait-and-see-how-the-lawsuit-turns-out".

The Regional EIS states that unauthorized occupants will be relocated. It fails to consider the fact that the occupants, authorized or not, have a prior right to this land and have equitable claims to the land which should have been taken into account. The Mineral Leasing Act gives them those rights. See 30 U.S.C.S. §201(a). Every occupant should have the right to refuse the mining companies permission to strip mine his/her land.

A related problem is the fact that the U.S. did not have the right to take away coal from allottees by "reserving" it. Allotments were supposed to be owned in fee and each allottee should now be recognized as the owner of any coal underlying his/her land. Only the allottee can sell the coal and only the allottee should receive the income from that sale.

The unsuitability criteria need to be applied much more liberally. If the market for coal were tight and we needed to squeeze every available ton from every coal field the situation might be different. At this point, however, there is no need to lease land whose potential for reclamation is unknown, or which contains occupants or sacred sites or graves.

My final comment concerns the Regional EIS. Nowhere are the simple alternatives of delaying the lease sale or staggering the sales discussed. A delay at this time would seem to be perfectly reasonable; the market is glutted with coal, demand is uncertain, and the Powder River Basin sale of last year leased enough coal to saturate the market for years. The U.S. is not going to receive any bids even close to what this coal should bring. An alternative to delaying the entire lease sale is to sell leases one or two at a time, every year or so, as more coal becomes necessary. If fewer tons are leased at a time, demand for those tons will be more intense and the bids will be much higher. It only makes sense to try to maximize return instead of giving away the

Page Three - Continued

nation's resources. In fact, as a citizen of the U.S. and part-owner of its coal I will protest loud and long any planned giveaway. At this point the BLM can still avoid such a result; it must give consideration to the alternatives I have discussed.

I look forward to reviewing the final EIS. As I said earlier, if you would like to discuss any of my comments feel free to write or call.

Sincerely,

Paul Fyfe
Paul Fyfe
Attorney

PF/ce



ENVIRONMENTAL DEFENSE FUND

April 7, 1983

State Director (934A)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, NM 87501

Dear Sir:

Enclosed are comments of the Environmental Defense Fund on the Draft Environmental Impact Statements for "Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town," and "San Juan River Regional Coal."

Please incorporate by reference the transcript of Mr. David Marcus's testimony on behalf of the Environmental Defense Fund at the public hearings on the Draft Environmental Impact Statements held by the Bureau of Land Management in Santa Fe, New Mexico, March 14, 1983.

Sincerely,

Daniel Kirshner
Daniel Kirshner
Economic Analyst

Enclosure

DK:car

COAL DEVELOPMENT PROPOSALS IN NEW MEXICO:
AN ECONOMIC AND TECHNICAL ANALYSIS

Comments on the
Draft Environmental Impact Statements
for the
Proposed New Mexico Generating Station
and
Proposed Leasing of Federal Coal
in Northwest New Mexico

by

THE ENVIRONMENTAL DEFENSE FUND
2606 Dwight Way
Berkeley, California 94704

APRIL 1983

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Executive Summary

This report contains the comments of the Environmental Defense Fund (EDF) on two separate Draft Environmental Impact Statements (DEISs) and supporting materials prepared by the Bureau of Land Management (BLM). The DEISs concern a proposal by the Department of the Interior (DOI) to lease up to 4 billion tons of coal in 1963 in the San Juan Basin of northwest New Mexico, and a proposal by the Public Service Company of New Mexico (PNM) to build a 2000 megawatt (MW) coal-fired electrical generating station in that same area.

The first section of this report concerns the powerplant DEIS. EDF cites evidence from PNM itself which shows that the proposed powerplant is not needed for at least a dozen years. When it is built, PNM plans to use only 30 percent of the plant's output and neither the BLM nor PNM ever say who would use the rest. PNM has systematically misled the BLM by withholding demand forecasts and resource plans confirming that its planned share of the project would be both much smaller and later than shown in the DEIS. The DEIS is also inadequate in a legal sense, since it lacks sufficient discussion of alternative sizes, sites, technologies, or methods of pollution control. EDF concludes that BLM has written an inadequate and inaccurate analysis of an unnecessary project, and BLM should defer further action until the time that the powerplant's proposed construction start date

is no longer far in the future, if such a time ever arrives.

The second section of this report concerns DOI's proposed grant of Preference Right Lease Applications and sale of new Federal coal leases. A general overview of the DEIS's inadequacies is followed by technical comments on the need for leasing, on the proposed Star Lake Railroad and its relation to leasing, employment and tax revenues, and on the "due diligence," "economic recovery," and "fair market value" requirements for Federal coal leases. Page-by-page comments on the DEIS point out numerous contradictory and inaccurate statements in the document.

In reviewing the leasing DEIS, EDF discovered a pattern of ignoring existing mines and leases and overstating future coal demand. By estimating prospective demand too high and supply too low, the BLM has artificially created a "need" for further leasing of coal. EDF's analysis shows that demand for New Mexico coal for the next dozen years can be met from existing mines and leases, without either PRLA issuance or new leasing. EDF shows that if DOI does go forward with new leasing, it will repeat the fiasco of the April 1982 Powder River coal lease sale: there will be few bids, very low bids, and no new jobs. There is no reason for DOI to lease new coal in 1983-1984 when Federal coal leases dating back to 1961 remain undeveloped, existing mines are shut down, and up-to-date supply/demand analyses show that supply from existing mines and leases will exceed demand well into the 1990s.

COMMENTS ON THE

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FOR THE

PROPOSED NEW MEXICO GENERATING STATION

A. Introduction

In June 1977, Public Service Company of New Mexico (PNM) applied to the Bureau of Land Management (BLM) for right-of-way permits for two transmission lines and a water pipeline to serve a planned 2000 MW powerplant -- the New Mexico Generating Station (NMGS) -- at the Bisti site in northwest New Mexico.¹ At that time PNM planned to have the first unit of the plant operating by May, 1983.² Since that time the planned operation date of the first unit has been delayed by PNM to 1985,³ to 1990,⁴ and to 1995,⁵ with a further delay likely.⁶ Construction at Bisti will not start until at least 1991.⁷ BLM proposes to grant approvals this year for a pipeline right-of-way and two transmission line corridor right-of-ways⁸ for a project that will not even begin construction for another eight years. The BLM has not, and cannot, do an adequate analysis today of the impacts of this project in the 1990s, especially in comparison to alternatives

that will be available in the 1990s. In particular, BLM ignores PNM's own plans to rely on decreased load growth due to conservation and purchased power instead of the powerplant recommended for approval by this DEIS.

The BLM bases its analysis of alternatives to the project on PNM's representations that it (PNM) will need to meet a 1990 demand of 1871 MW⁹ plus a 20% reserve margin.¹⁰ The BLM calculates that without NMGS PNM will have a capacity "deficit" of 200 MW in 1990 and 995 MW by 1995.¹¹

Previous analyses¹² have pointed out the inaccuracy of the PNM data on which the BLM bases its calculations. In August 1982 PNM itself revised its demand forecast to a substantially lower value.¹³ As of February 9, 1983, however, some 6 months later, PNM had not supplied its new, lower forecast to the BLM.¹⁴ Table 1 compares different PNM forecasts made over the last two years.

¹NMGS DEIS, p. S-1. [See References for full description of all documents cited.]

²PNM, August 1978, p. 1.

³Id.

⁴Geist to Luscher.

⁵SEP, p. C-5, January 1983.

⁶New Mexico Sun, November 15, 1982; Id., February 13, 1983, citing Vice President Ackerman of PNM.

⁷Union County Leader, January 19, 1983; New Mexico Sun, February 13, 1983, citing Vice President Ackerman of PNM. Coal Week.

⁸February 28, 1983, p. 4.

⁹NMGS DEIS, "Agency Preferred Alternative," p. 1-42.

⁹PNM Description, 1981, p. 45.

¹⁰Id., p. 56.

¹¹Id.

¹²Boondoggle; Deception.

¹³SEP, Section B, August 1982.

¹⁴Leslie Cone, NMGS EIS project leader, personal communication, February 9, 1983.

Table 1

PNM Peak Demand Forecasts
(MW)

	1982	1966	1990	1994	1998
PNM to BLM, 1961 ¹⁵	1131	1366	1671	2299	2875
PNM, December 1961 ¹⁶	982	1125	1573	N/A	N/A
PNM, August 1962 ¹⁷	957*	979	1352	1639	1931

*Actual

As a result of the precipitous drop in its demand forecast PNM no longer expects a 200 MW capacity shortfall in 1990. Its current load and resource projection for 1990 shows demand at 1352 MW and net resources of 1661 MW, for a 509 MW reserve margin.¹⁸ PNM's expected reserve margin exceeds the 20% required for reliability¹⁹ by some 239 MW. What was a 200 MW deficit is now a 239 MW surplus. In later years, the change is equally pronounced. Where the BLM showed a 995 MW shortfall in 1995, the current PNM plan shows (without the Bisti plant) a reserve margin of 267 MW, only 113 MW below the 20% criterion.²⁰ The 1500 MW of the Bisti plant shown on-line by 1995 in the DEIS²¹ have shrunk to only 150 MW in PNM's own 1995 plans.²²

¹⁵PNM Description 1981, p. 45.¹⁶LGD, December 1961, Table F.¹⁷SEP, p. E-11.¹⁸Id., p. C-7.¹⁹Id., p. C-2.²⁰Id., p. C-8.²¹NMGS DEIS, p. E-3.²²SEP, p. C-8.

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Besides deferring the project 5 years, PNM has reduced its size. The application, with two 500 kV lines to Albuquerque and no other transmission system,²³ is based on all 2000 MW flowing to PNM. But now PNM plans only a 600 MW share of the plant.²⁴ The other 1400 MW could not be delivered to a non-PNM customer without new transmission lines, but the DEIS contains no discussion of any such impact from approving the project.

The meaning of PNM's reduced load growth forecast and construction plans is simple: the DEIS as it stands is worthless as a document on which to base decisions. With the start of the proposed action deferred five years by its own proponent, the descriptions of socioeconomic impacts and NMGS-related transmission line requirements are all wrong, the analysis of alternatives to the project is hopelessly incomplete, and the omission of any discussion of alternate means of mitigating air quality impacts is even more negligent. These discussions of expected impacts, alternatives, and mitigation are the basic requirements of an EIS, and no legally adequate EIS can be completed without them.

The BLM has two choices before it. It can suspend the EIS process until the Bisti plant comes within a reasonable time

²³NMGS DEIS, p. S-1.²⁴SEP, p. C-8

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frame (i.e. 3 years before planned construction start), or it can deny the application. There is no basis for approving, in 1983, a project which will not enter construction for at least eight years. There is no basis at any time for approving over 200 miles of 500 kV transmission line corridors²⁵ when only 600 MW are planned for use by PNM and a 5 mile transmission line (corridor T5) is sufficient to provide a transmission path from Bisti to Albuquerque (see the Appendix to section I). There is no legal basis for approving any PNM application as long as an EIS remains as riddled with omissions and inaccuracies as this DEIS is, and the applicant systematically hides from the BLM such basic information as the planned project size and schedule.

The detailed analysis below gives numerous examples of failures of the DEIS, many of them caused by use of false or out-of-date PNM data. It also reviews the BLM's Technical Reports on Purpose and Need, and on Alternatives, which compound the errors and omissions of the DEIS.

²⁵NMGS DEIS, Map G-23.

I-5

B. Detailed Comments on the Draft Environmental Impact Statement for the Proposed New Mexico Generating Station (NMGS)

1. p. S-1. "the major purpose of the proposed NMGS is the generation of electricity . . . to meet the forecasted need of PNM's system."

This statement is false. PNM plans to use only 30% of NMGS for the needs of its system.¹ It has planned only a 30% share since at least 1961.² PNM has said for over two years that "because of PNM's reserve criteria . . . it would be impractical for PNM to install . . . even a 500 MW coal unit without joint participants."³

2. p. S-1. "The ultimate authority for resolving the question of need rests with the "New Mexico Public Service Commission."

This statement ignores the BLM's responsibility to also consider need. Without reviewing the size and timing of PNM's needs the BLM cannot judge the proper alternatives or mitigation to consider. Without considering need issues the BLM cannot judge, in its own words, whether "PNM is pursuing a reasonable purpose in attempting to obtain environmental approval at this time for NMGS" and whether "there is sufficient likelihood that NMGS will be needed so that environmental review is justified at this time . . ."⁴

3. p. S-1. "PNM has filed application for . . . two 500-kV transmission lines that would be needed in the development of the proposed 2000-MW NMGS . . ."

The assertion of need is false. PNM currently plans only one transmission line, and that one not until 1997.⁵ PNM has not decided itself if a second line is needed.⁶

¹SEP, p. C-8.²Case 1577; Cairnski 1981; WSCC 1961, p. 2B-15; WSCC 1982, p. 2B-16.³Conservation Plan.⁴Need Technical Report, pp. 2-1, 2-2.⁵SEP, p. E-13, December 1982.⁶Id.

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4. p. S-1. "Fuel for the plant would be obtained from surface mines currently under lease."

This statement contradicts the San Juan River Regional Coal DEIS, where NMGS is cited as a possible user of coal from either leases to be sold in late 1983 or Preference Right Lease Applications (PRLAs) to be issued in 1983. Neither constitutes a current lease. If the NMGS DEIS is correct then there is no basis for leasing the proposed Bisti #1, #2, #4 or #6 and #8 tracts, and the lease sale should be reduced.

5. p. S-1. "The power generated by the plant would be transmitted on . . . two 500-kV transmission lines to . . . Albuquerque, New Mexico; from there it would be distributed throughout the PNM service area."

This statement is false. There would be no new transmission lines at all until the third unit of the powerplant was built, and probably never a second transmission line.⁷ Only 30 percent of the power would go to PNM.⁸ Some of that would go to the coal mine supplying the powerplant, and not to Albuquerque at all.⁹

6. p. S-1. "The first generating unit could be required for commercial operation in 1990."

This statement is false. Even PNM's highest forecast does not imply any need for Unit 1 in 1990.¹⁰

7. p. S-1. "The 500-kV loop connecting with FC-A-P would be in service in 1990."

This statement is false. The FC-A-P loop is not planned until 1995.¹¹

8. p. S-1. "the first [new] transmission line to the

⁷Id.
⁸Id., p. C-8, January 1983.
⁹Id., Section E, November 1982.
¹⁰1982 Forecast, p.62.
¹¹SEP, p. E-13, December 1982.

I-7

Albuquerque area would be in service in 1993."

This statement contradicts the DEIS itself, which shows the transmission line built in 1988.¹² PNM actually does not plan any new line until 1997.¹³

9. p. S-1. "the second [new transmission line would be in service] in 1998."

This statement contradicts the DEIS itself, which shows the second line built in 1994.¹⁴ Both figures are false; PNM has not scheduled a second transmission line at all, and if there were one would obviously come after 1997, when the first line is planned.¹⁵

10. p. S-2. At scoping meetings "issues identified as major [included] . . . need for the project."

This contradicts the BLM's contention that need is not an issue which it must consider.¹⁶

11. p. S-3. No SO₂ control alternatives were considered other than PNM's proposal.

Omitting any discussion of alternative SO₂ pollution mitigation methods flatly violates the CEQ NEPA regulations, which require an analysis of ". . . mitigation not already included . . ."¹⁷

12. p. S-3. No NO_x control considered other than PNM's proposal.

Same comment as comment 11.

13. p. S-6. Coal gasification and nuclear power plant options are

¹²NMGS DEIS, p. 1-26.
¹³SEP, p. E-13, December 1982.
¹⁴NMGS DEIS, p. 1-26.
¹⁵SEP, p. E-13, December 1982
¹⁶NMGS DEIS, p. 1-42.
¹⁷CEQ Regulations, Section 1502.14(f).

I-8

dismissed because they would not be available "until the mid-1990s."

Since the plant itself is not planned until 1995, the BLM's objection is meaningless.

14. p. S-6. The renewable resource alternative is described as a "combination of many technologies, possibly including storage".

The need for a "combination" flows from the assumption that a 2000 MW alternative is needed. In fact, no such massive alternative is required to replace PNM's actual intended project, which consists of only 150 MW by 1995.¹⁸

15. p. S-6. List of "No-Action Alternatives"

The true No-Action alternative, doing nothing, is omitted. Yet this may be the best alternative of all, electrically, economically, and environmentally.

16. p. S-6. For an alternate site, "sites potentially capable of supporting a 2000-MW coal-fired electric station may have to be considered."

This is false. Only a 600 MW alternative is required to completely replace PNM's proposed share of NMGS.¹⁹

17. p. S-7. The Bisti Wilderness Study Area is 2.1 miles from the proposed NMGS.

This is false. The closest points of the Bisti WSA and the NMGS site are 1.0 miles apart.

18. p. S-10. "peak demand due to NMGS construction work force would be 600 units in 1986-87."

This is false. PNM does not even plan to start NMGS

¹⁸SEP, p. C-8, January 1983.
¹⁹Id.

I-9

construction until 1991.²⁰

19. p. S-10. "Employment needs on other major projects in northern San Juan County are expected to decrease in 1991, 1992, and 1993."

BLM has proposed no documentation whatsoever for its claimed ability to predict cyclical employment trends a decade into the future.

20. p. S-10. There will be "high labor demand from other projects in the region" in "1987, 1989, 1996, 1997."

Same comment as comment 19.

21. p. S-10. "There would be no conflicts with existing land use plans . . ."

This is false. The Navajo Tribe has laid claim to both surface and underground rights for 35,000 acres in northern New Mexico, including the NMGS site.²¹ The NMGS as proposed, including BLM-granted right-of ways and the Ute Mountain Land Exchange, conflicts with the planned Navajo ownership and use of the land.

22. p. S-10. "Selection of plant system alternatives [e.g., for water supply and air pollution mitigation] would be made during . . . other permitting processes."

BLM's deferral of decision-making to others does not excuse it from its responsibility, as BLS lead agency, to fully discuss alternatives and mitigation.²²

23. p. S-11. The BLM lists "other areas of controversy" which will not be discussed in the EIS.

²⁰New Mexico Sun, February 1, 1983, quoting PNM Vice President Ackerman.
²¹Coal DEIS, pp. A-76 to A-81.
²²CEQ Regulations, Section 1502.14; Federal Register, March 23, 1981, p. 18027.

I-10

Not discussing two separate Navajo claims each of which includes the proposed NMGS site violates NEPA.²³

Not discussing "need for power" makes an intelligent analysis of use of generation or conservation alternatives impossible.

24. p. 2. "This EIS does not address the issues of best available control technologies . . ."

This omission violates the NEPA requirement for consideration of "mitigation not already included . . ."²⁴

25. p. 3. "NMGS would start construction in 1965."

This is false. NMGS will not start construction until at least 1991.²⁵

26. p. 1-1. "The applicant's statement of purpose states that the major purpose of the project is . . . to meet the forecasted need of PNM's system."

The PNM statement indeed says what the BLM paraphrases it as saying. But PNM's statement is false (see comment 1). By repeating PNM's incorrect assertions without verification, the BLM violates the NEPA requirement that agencies be "responsible" for the "accuracy" of data received from applicants.²⁶

27. p. 1-1. The BLM quotes PNM as saying that PNM's purpose "is to provide the management of . . . PNM with sufficient information to assess the benefits and risks of developing a coal-fired generating station."

This PNM statement is false. PNM has applied for permits, it is not just studying the relative merits of alternatives. Indeed, the EIS will not supply the information PNM says it is

²³CEQ Regulations, Sections 1502.14(b) and (f).

²⁴CEQ Regulations, Section 1502.14(f).

²⁵New Mexico Sun, February 13, 1983, quoting PNM Vice President Ackerman.

²⁶CEQ Regulations, Section 1506.5(a).

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are intended to bracket the range of growth likely to be achieved . . ."

In reality, PNM's current (August, 1982) forecast is below the so-called low forecast used in the DEIS.

32. p. 1-2. "PNM states that it 'believes [the strong growth scenario] is the realistic scenario upon which to develop long-range expansion plans . . .'"

The BLM is letting PNM mislead it by reprinting this quotation. In fact, PNM does not base its long-run expansion forecasts upon a "strong growth" scenario. PNM bases its long run expansion forecast upon its main forecast.³⁴

33. p. 1-3. Figure 1-1 shows 5 PNM demand forecasts.

The forecasts shown are completely out of date. The current (October 1982) high forecast is about the same as the low forecast shown by the BLM. The current low PNM forecast would be off the bottom of the graph in 1985-6, and remains below the "Existing and Planned Capacity (excluding NMGS)" line throughout the rest of the century.³⁵

34. p. 1-3. Figure 1-1 shows "Existing and Planned Capacity (excluding NMGS)."

This line omits the energy available to PNM through its contract with SPS. The line should be raised to reflect SPS contractual obligation to deliver 100 MW at at least a 95 percent capacity factor, if PNM so wishes, in 1991-95. It should be further raised to reflect the increase in PNM's purchase of 200 MW starting May 1, 1995.³⁶

35. p. 1-2. The BLM cites PNM's 1981 Forecast.

PNM has a 1982 version of the same document, with additional historical data and revised equation specification, and much

³⁴Cainski; SEP, Section C, January 1983; Case 1794.

³⁵1982 Forecast, pp. 62-3.

³⁶Case 1794, PNM-SPS contract, Service Schedule C.

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seeking "relating to the feasibility and availability of such coal-related resources as land, water, and fuel,"²⁷ since the EIS refuses to consider various legal and administrative challenges to land and water use in northwest New Mexico.²⁸ By not pointing out that PNM is seeking permits rather than data, the BLM again fails the NEPA requirement to critically review applicants' claims.²⁹

26. p. 1-1. The BLM quotes PNM as to the timing of the generating units and the number of transmission lines.

PNM's statements to the BLM are false. PNM has delayed the first generating unit to 1995 and the first transmission line to 1997 in its own plans.³⁰

29. p. 1-2. "Note that NME's electrical requirements are considered here because PNM and NME are actively pursuing a merger . . ."

The PNM-NME merger was denied by the New Mexico Public Service Commission in December 1981, almost a year before the publication of the DEIS. There is no basis for BLM, which elsewhere defers to the Public Service Commission on need questions,³¹ to include NME in this EIS. NME is not electrically interconnected with PNM, it is not contractually connected to PNM, and its needs are not relevant to PNM.

30. p. 1-2. Excluding sales for resale and NME, "the electric needs served by PNM . . . stood at 3903 Gwh in 1980."

This statement is false. PNM's 1980 sales, excluding all sales for resale, were 3558 Gwh.³² Even in 1981 PNM sales excluding NME and sales for resale were only 3633 Gwh.³³

31. p. 1-2. "PNM states that 'the high and low scenarios . . ."

²⁷NMGS DEIS, p. 1-1.

²⁸Id., p. S-11.

²⁹CEQ Regulations, Section 1506.5(a).

³⁰SEP, pp. C-8, E-13.

³¹NMGS DEIS, p. S-1.

³²1982 Forecast, Table B-1.

³³Id., Table B-1.

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lower resulting forecasts.³⁷ The 1982 PNM forecast was prepared prior to the publication of the DEIS, with a preliminary forecast in July 1982, four months prior to DEIS publication.³⁸

36. p. 1-4. "Fuel for the plant would be obtained from surface coal mines (under existing leases) . . ."

See comment 4.

37. p. 1-4. The output of the plant "would be distributed throughout the PNM service area."

This is false. See comment 5.

38. p. 1-4. "The first generating unit could be required for commercial operation in 1990."

This is false. See comment 6.

39. p. 1-4. "The 500-kV loop. . . would be in service in 1990 . . ."

This is false. See comment 7.

40. p. 1-4. "The first transmission line to the Albuquerque area would be in service in 1993; the second, in 1998."

Both statements are false. See comments 8 and 9.

41. p. 1-4. "Four 500-MW units are planned for the Proposed Action, to be completed in 1990, 1993, 1995, and 1998."

This is false. PNM does not plan to complete the units until 1995, 1996, 1997, and 1999, respectively.³⁹ It has told a prospective merger partner, the City of Clayton, New Mexico electric utility, that it would not be building any more plants until the

³⁷1982 Forecast.

³⁸Id., p. 42.

³⁹SEP, p. C-8.

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late 1990s.⁴⁰

42. p. 1-8. Table 1-2 indicates that "other means of providing for need" were considered.

Only 2000 MW alternatives were considered. Ways of "providing for need" which involved only 600 MW (PNM's proposed share of NMGS) were not considered.

43. p. 1-8. Table 1-2 indicates that "delay of action" was considered.

There is no analysis of the effect of a delay in BLM action, nor any consideration of the electrical effects (in terms of reliability) of a delay of operation of NMGS.

44. p. 1-8. Tables 1-2 indicates that an alternative site in Torrance County was considered.

There was no consideration of the Torrance County site which PNM itself considers the best, a site east of Willard.⁴¹

45. p. 1-8. Table 1-2 indicates that there was no consideration of alternative mitigation methods for sulfur and nitrogen oxide emissions other than PNM's proposal.

This is a violation of NEPA. See comments 11 and 12.

46. p. 1-9. Table 1-2 indicates that wet-dry cooling towers were considered.

Considering wet-dry cooling makes sense, since the San Juan Basin is arid, the San Juan River may be overallocated, PNM's prospective water source (UI) has had its contract challenged in court by the Jicarilla Apaches, and PNM has successfully built and is operating a 468 MW coal-fired powerplant with wet-dry cooling (San Juan 3). But where in the EIS is the alleged analysis? Where are BLM's conclusions as to the relative merits,

⁴⁰New Mexico Sun, February 13, 1983, quoting the Clayton City Clerk.
⁴¹Anderson memo.

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economic, environmental, or other, of different types of cooling?

47. p. 1-10. Table 1-2 says that 2 alternate transmission corridors were analyzed.

The DEIS omits any analysis of the options of not using any corridors other than T5. It also omits the option of using only 1 new corridor to Albuquerque, despite the fact that PNM itself only plans one new line to Albuquerque.⁴²

48. p. 1-13. "PNM owns and has started production at the De-Na-Zin Mine, which is within 2 miles of the proposed NMGS."

This statement is utterly irrelevant, since the De-Na-Zin mine has very limited reserves, and will be exhausted by the mid-1980s.⁴³

49. p. 1-13. The DEIS describes a proposed "Bisti coal mine."

No map is supplied. Would the proposed mine be on existing Federal leases, on existing state leases, on existing PRLAs, on proposed new leasing tracts, or where?

50. p. 1-13. "Coal would be hauled. . . to. . . Sunbelt Mining property directly north of NMGS and adjacent to the NMGS boundary."

The two sections directly north of the NMGS site do not belong to Sunbelt.

51. p. 1-15. PNM proposes to attain an average removal efficiency of 80 percent for sulfur oxides, "if required to meet New Mexico state emission limits."

There is no discussion of what PNM proposes to do to meet federal BACT requirements. The proposed 80 percent level for units coming on line in 1995-99 is laughable, especially

⁴²SEP, p. E-13.

⁴³De-Na-Zin Mine Plan, filed with the New Mexico Energy & Minerals Department (EMD).

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considering that a plant under construction today is planned to have 96 percent sulfur control.⁴⁴ In the southwest, the Southern California Edison Company has agreed that a desert-sited 500 MW coal-fired plant planned for 1991 can achieve 95 percent SO₂ control on a continuous basis.⁴⁵

52. p. 1-15. The BLM lists methods proposed by PNM to meet current New Mexico standards for nitrogen oxide emissions.

There is no discussion of methods of mitigating nitrogen oxide emissions beyond the level proposed by PNM. There is no discussion of what PNM proposes to do to meet Federal BACT standards. The proposals listed will only provide about a 30 percent reduction in nitrogen oxide emissions, compared to the 80 percent which an expert witness for the largest utility in southern California has agreed is possible in a 500 MW coal unit by 1990.⁴⁶

53. p. 1-17. "The Paragon Resources application for rights to groundwater specifies 16 locations for wells in the vicinity of NMGS."

The DEIS contains no map or other description to allow the reader to know what PNM's Paragon subsidiary is proposing.

54. p. 1-17. "the wells would be widely spaced, so collecting pipeline systems and new access roads would be necessary. . ."

Again, no map is provided. In view of the many coal development proposals in the vicinity,⁴⁷ plus the presence of two WSAs within 4 miles, laying roads and pipes will not be easy, and the DEIS does not allow adequate review of likely consequences of wellfield development if it does not even include maps of PNM's proposal.

55. p. 1-17. Water transport would start in 1990.

⁴⁴Power, January 1983, pp. 105-6. The units referred to are C2, Strip 3 and 4, in Montana.

⁴⁵Cal Coal Report, p. A-12.

⁴⁶Gary Jones, Radian Corporation, id., p. 23.

⁴⁷Coal DEIS, Visual C.

1-17

This is false, since unit 1 of NMGS is not planned until 1995.⁴⁸

56. p. 1-17. PNM "is currently negotiating a commitment to use 20,000 ac-ft/yr of Navajo Reservoir water from an existing industrial contract holder."

The BLM neglects to identify the holder in question (Utah International, which also supplies coal to PNM at the San Juan powerplant). It neglects to mention that Utah International's water contract has been challenged in court by the Jicarilla Apache tribe. It neglects to discuss whether Utah's water rights will be impaired if it does not use the water in question until 1995, the current date for the first unit of NMGS.

57. p. 1-17. The DEIS discusses the impacts of using 20,000 ac-ft/yr of water from the San Juan River.

There is no analysis of what PNM might or could do if it cannot obtain any water from the river. The BLM assumes in every alternative considered that at least 20,000 ac-ft of water from the river will be available. Given the current difficulties of the Plains Electric Generation and Transmission Cooperative of New Mexico in obtaining water supplies for its 85 percent-built Escalante plant, the DEIS is seriously deficient in not considering a wider range of alternative outcomes for PNM in its search for water.

58. p. 1-19. "A second main water pipeline would be constructed in 1995 for NMGS Units 3 and 4."

This is false. Unit 3 is not planned until 1997.⁴⁹

59. p. 1-19. In describing alternatives P2 and P3, the BLM gives operation dates of 1990 for unit 1 and 1995 for unit 3.

These dates are false. See comments 55 and 58.

⁴⁸SEP, p. C-8.

⁴⁹Id.

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60. p. 1-20. "The applicant estimates that a 14-year period (1985-1998) would be required for site preparation and construction of NMGS Units 1 and 4."

This is false. PNM Vice President Ackerman has stated that even for a 1995 unit, construction would not have to start until 1991.⁵⁰ Since Unit 4 is now planned for 1999, PNM is planning a construction period of 9 years, not 14. This means that the boom-town effect from rapid increase and then rapid decline of employment will be much more severe than estimated in the DEIS.

61. p. 1-26. Table 1-5 shows year-by-year construction and operations employment for each unit of NMGS, plus separate data for the water pipeline and transmission lines.

These data are completely out of date. Just shifting the numbers by the requisite number of years to correspond to PNM's current (January 1983) operation dates implies a construction peak in 1993 rather than 1987, and a peak employment of over 3000 rather than under 2000. The maximum annual increase and maximum annual decrease would both be larger, implying that the DEIS understates both the rate and size of employment changes associated with NMGS.

62. p. 1-27. A long section of the DEIS is entitled "Applicant-Committee Practices"

This title is misleading. There is no legal commitment from PNM to do any of the things described. Items listed are prefaced by such caveats as "as soon as possible," "where feasible," "when possible," "where appropriate," "where possible," "Choice of the appropriate option would be based upon both site-specific subsurface data and project economics," "appropriate," "where prudent and feasible," "as necessary," "where appropriate," "if removal is not essential," and "prudently and feasibly." The net effect of a three page list is that there is virtually nothing that PNM must do even if it is willing to do it.

63. p. 1-29. "Active gathering of fossils and artifacts would be discouraged, and known violators would be reprimanded by company

⁵⁰New Mexico Sun. February 13, 1983.

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supervisors and management."

Gathering fossils and artifacts is illegal. PNM's offer only to "reprimand" brings into question the degree to which adverse impacts on these resources will be mitigated.

64. p. 1-30. "The analysis of the no-action alternative therefore considered reasonably predictable consequences of not building NMGS."

This statement is false. Since PNM plans only a 600 MW share of NMGS, it is reasonably predictable that if NMGS were not built, PNM would try to replace it with 600 MW from another source. But the BLM considered only 2000 MW alternatives to NMGS, and only alternatives which could be available by 1990.

65. p. 1-31. Table 1-6 is identical to Table S-2.

See comments 13 through 16.

66. p. 1-35. Table 1-7 has estimates of the maximum increases in traffic, population, and housing demand due to NMGS.

All these numbers are too low, since the current NMGS schedule is more compressed than the previous one, and will thus involve more workers in a shorter time. See comment 61.

67. p. 1-36. Table 1-7 has data on social and economic conditions.

All these data are incorrect, since it is based on incorrect NMGS operating dates. In addition, using discounted dollars for operating funds which are initially negative and later positive gives an unduly optimistic picture. A realistic EIS would give the net present value of any dollar quantity, to take into account the time value of money.

68. p. 1-9. Table 1-9 lists projected tax revenues from different transmission lines.

These figures are incorrect, since they are based on inaccurate operation dates. Also, by expressing them in 1993 dollars, the BLM makes them look higher than they really are. The figures should be discounted back to 1983 dollars to give a realistic impression free of inflation effects.

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69. p. 1-42. The BLM-preferred transmission corridors are T3 and T2.

These corridors share about 30 percent of their length already.⁵¹ But the DEIS fails to discuss the possibility of using only one corridor, with double-circuit towers if two transmission lines are necessary. And of course the DEIS fails to discuss the possibility of only building one transmission line, even though that is all PNM itself has plans for.⁵² Finally, the DEIS fails to explain why BLM prefers any corridor at this time, since the first transmission line is not scheduled until 1997⁵³ and transmission lines take less than three years to construct.

70. p. 1-42. The BLM lists several "Areas of Controversy" which it has chosen not to address, even though they are both key determinants of the project's viability and the issues that repeatedly draw strong public interest.

This section is identical to the listing on p. S-11. See comment 23.

71. p. 2-3. "To date, no conclusive baseline studies have established that similar acid precipitation potential exists for the Southwest in general. . . ."

The BLM ignores the detailed, multi-year research which has been performed by Dr. John Harte of the University of California, and others, at the Rocky Mountain Biological Laboratory in Gothic, Colorado. A conference on acid rain in the Southwest (to be held in Colorado in June) includes Federal agencies, EDF, and the Electric Power Research Institute (the research arm of the electric utility industry) as sponsors.⁵⁴

72. p. 2-3. The BLM lists "visually significant points of interest in the project region."

⁵¹NMGS DEIS, maps G-20 to G-23.

⁵²SEP, p. E-13.

⁵³Id., pp. C-8, E-13.

⁵⁴Western Colorado Report, March 28, 1983, p. 7.

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The list omits the Ah-Shi-Sle-Pah WSA, although the BLM elsewhere admits that the proposed transmission lines would be visible from Ah-Shi-Sle-Pah.

73. p. 2-5. Tables 2-1 and 2-2 each list particulate concentrations.

The values given differ by about 20 percent.

74. p. 2-7. Tables 2-3 and 2-4 each list particulate concentrations.

Same comment as 73.

75. p. 2-18. The NMGS plant site is "3 miles from Bisti WSA, 6 miles from De-Na-Zin.

In fact the NMGS powerplant stacks, as proposed, would be only 2.1 miles from the Bisti WSA, as the DEIS itself admits.⁵⁵ At their closest points, the NMGS site and the Bisti WSA are only 1.0 miles apart. The De-Na-Zin WSA is only 3.5 miles from the NMGS site.⁵⁶

76. p. 2-18. Table 2-7 describes visual impacts for landscapes occupied by project components.

The BLM fails to include the associated coal mines to supply NMGS as "project components." These mines are not discussed in the Leasing EIS, because BLM claims these mines will be on existing leases (p. S-1). The BLM cannot claim it is exempted from discussing the mines simply because they are not part of PNM's permit application. The powerplant itself is not part of PNM's application, only the associated right-of-way. But NEPA requires the BLM to consider all the environmental effects associated with the proposed action,⁵⁷ and those effects include not only the operation of a powerplant but also the procurement of fuel for it.

⁵⁵NMGS DEIS, p. S-7.

⁵⁶Id.

⁵⁷CEQ Regulations, section 1508.8(b); Federal Register, March 23, 1981, p. 18031.

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77. p. 2-22. "The Bisti WSA is located approximately 3 miles northwest of the proposed site."

See comment 75.

78. p. 2-22. "The De-Na-Zin WSA is located approximately 6 miles northeast of the plant site."

See comment 75.

79. p. 2-24. Referring to the proposed Con Paso Railroad and the proposed Star Lake-Bisti Railroad, the BLM says "For this analysis, both are assumed to be in operation by 1965."

This assumption flatly contradicts the Coal DEIS, where the Star Lake-Bisti Railroad is not expected to be operational until 1967.⁵⁸ If the Star Lake Railroad were available two years sooner, then much of the basis for low PRLA production shown in the Coal DEIS would disappear, eliminating the need for leasing targeted by that DEIS. The BLM's assumption that the Con Paso Railroad will be built contradicts analyses made by the director of the New Mexico State BLM. In a letter to the head of the BLM, the State Director indicated that no new coal development was likely on leases on the Navajo Reservation before at least 1990.⁵⁹ But the purpose of the proposed Con Paso Railroad is to serve the Burnham lease on the Navajo reservation, for which a mine plan has already been filed. If the Con Paso Railroad were actually in operation by 1985, then the State Director's assumption that production would not occur by 1990 would be clearly false.

80. p. 2-25. Map 2-5 shows a "proposed New Mexico State Sponsored Railroad" running parallel to state highway 371 from Crownpoint north past the NMGS site to Farmington.

The state of New Mexico has not proposed any such railroad. A bill which might allow the state to finance a railroad, if proposed by a private company, was introduced in the 1983 session.

⁵⁸Coal DEIS p. 3-2.

⁵⁹Luscher to Burford, 1982.

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of the New Mexico legislature but failed.

81. p. 2-25. Map 2-5 shows the Star Lake Railroad as "permitted" in the north-south section past Whitehorse, and "proposed" in an east-west section running all the way west to Burnham.

The map is incorrect. First, the ICC's grant of a certificate has been remanded back to it by the District of Columbia Circuit Court of Appeals, in a March 1, 1983 decision.⁶⁰ Second, even the railroad sponsor has never applied for a certificate past the boundary of the Navajo Reservation. Thus the map should delete the section of railroad west of a point 5 miles west of the NMGS site, and it should indicate that at present ~~none~~ of the railroad has final ICC approval.

82. p. 2-26. The BLM claims that the Star Lake and La Ventana mines will produce coal and move it to market via trucks on highway 44.

This appears to contradict the Coal DEIS, which indicates that the Star Lake Mine and PRLAs in the same region are dependent on the Star Lake Railroad and cannot open without it. If the NMGS DEIS is correct, then the Coal DEIS should be corrected.

83. p. 3-1. "Under PNM's current schedule, a PSD permit application would be submitted in October 1983."

This statement is false. Since PSD permits generally require construction to start within a reasonable time after they are granted, and PNM does not plan to start construction until 1991 or later,⁶¹ PNM probably does not plan to file a PSD permit for several years, possibly not until the late 1980s.

84. p. 3-1. "Currently there are no cause-and-effect relationships between coal-fired power plant emissions and acid precipitation effects."

⁶⁰Railroad Remand.

⁶¹New Mexico Sun, February 13, 1983, quoting PNM Vice President Ackerman; Coal Week, February 28, 1983, p. 4.

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While the BLM does not define "cause and effect," it does ignore a voluminous literature indicating that coal-fired power plant emissions are a primary contributor to acid rain, and it ignores major international controversies, including one between the United States and Canada, where nations have contended that a very definite cause and effect relationship exists.

85. p. 3-4. Table 3-2 shows the maximum contribution of NMGS to nitrogen oxide concentrations occurring southeast of the plant.

The BLM omits to point out that this effect is directly towards the Chaco Cultural National Historic Park, which has a closest point less than half a dozen miles from the point of maximum NMGS-caused impact.

86. p. 3-21. Figure 3-1 gives an artist's rendition of "NMGS, North Approach"

The view is actually from the west, not the north (see layout, p. 1-14). The apparent mesa to the left of the plant is not a mesa at all, but the emergency coal pile (see layout, p. 1-14). Also, the artist has chosen to portray the plant when it is not running, as evidenced by the lack of steam from the cooling towers. A more accurate and representative view should be prepared.

87. p. 3-40. "The Torrance site is located in the Estancia Basin in Torrance County Manzano Peak, is about 7 miles northwest of the site."

The BLM provides no map, although NEPA requires alternatives to be treated substantially.⁶² Based on the statement about Manzano Peak, however, the BLM appears ~~not~~ to be describing the Torrance County site which PNM itself has ranked most favorably. PNM's preferred Torrance county site, known to PNM as Torrance 1B, is east of Willard, New Mexico, and more than 20 miles from Manzano Peak.⁶³

66. p. 3-40. "higher terrain to the west could disrupt the poor dispersion in the area."

⁶²CEQ Regulations, Section 1502.14(b).

⁶³Anderson memo.

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This is a criticism of the Torrance County site reviewed by PNM's consultant WCC, not PNM's preferred Torrance site.⁶⁴

89. p. 3-44. "McKinley site"

Again, the BLM does not provide a map although the proposed action gets 65 maps.⁶⁵ The total description of the McKinley site is less than 2 pages, hardly the "rigorous" consideration of alternatives the law requires.⁶⁶

90. pp. 3-44, 3-46. "Chaco mesa is east to NE of the site at a distance of about 10 miles." "Hospah is located about 11 miles due northeast [of the site]."

Since Chaco Mesa is NE of Hospah, these two sentences are mutually contradictory.

91. p. 3-45. The DEIS discusses "the major constraints" to obtaining well water at the McKinley site.

The legal difficulties cited apply equally to the NMGS site, where the BLM has neglected to mention them.

92. pp. 3-40 to 3-46. The DEIS discusses Torrance and McKinley sites.

The BLM omits any discussion of transmission lines although this is technically a DEIS for right-of-way decisions. No mention is made of the fact that Torrance and McKinley are both closer to Albuquerque than Bisti, meaning less land impacted, and fewer transmission losses of power and energy. Nor does the BLM discuss proximity to pumped storage plants, a potential use of NMGS output which PNM's analyses considered.⁶⁷

⁶⁴Id.

⁶⁵NMGS DEIS, pp. 1-11, 1-14, 1-18, 1-21, 2-4, 2-11, 2-21, 2-23, 2-25, 2-36, 3-11, 3-29, C-14, through C-17, and G-1 through G-49.

⁶⁶Federal Register, March 23, 1961, p. 16026; CEQ Regulations, Sections 1502.14, 1505.1(e).

⁶⁷Anderson memo, attachment III.

I-26

93. p. 3-45. Regarding mineral resources, including coal, near the McKinley site, the BLM says "there are no known plans for development of these resources in the near future."

Assuming the "near future" includes the period prior to NMGS operation, this statement is false. The BLM's "McKinley site" appears to be the same as PNM's "McKinley 22 site".⁶⁶ The McKinley 22 site is less than 10 miles from the Lee Ranch Mine, currently under construction for 1984 operation. It is near the South Hoshpah Mine proposed for operation before NMGS in 1995, with a mining permit dating from 1975.⁶⁹ It is less than 5 miles from the Divide and Hoshpah #2 tracts which the BLM proposed to lease in 1963. And it borders the Hoshpah #1 tract, also planned for 1983 leasing. On what possible basis does BLM base its claim that there are no known development plans, particularly since the DEIS lists the South Hoshpah and Lee Ranch mines in its baseline studies?⁷⁰

94. p. 3-49. "If NMGS were not constructed and operated, the impacts associated with it would not occur."

This represents the entire analysis of the true no-action alternative. Nowhere does the DEIS say whether or not simply not building NMGS would be feasible, since the BLM has chosen to ignore need issues.

95. p. 3-49. "Since it is possible that PNM would have to supply electricity by another means, an analysis of the possible consequences of this alternative was conducted."

This sentence is false. The only analysis, skimpy as it was, assumed that all 2000 MW of NMGS would be needed. Needs of 600 MW were not considered, nor does the DEIS contain any quantitative analysis of what PNM could do to reduce its needs below the 600 MW (by 1999) it now projects.

⁶⁶Id. The McKinley site is Township 16N, Range 10W, sections 9 and 10, which are shown on map G-42 of the NMGS DEIS.

⁶⁹New Mexico Surface Mining Commission, permit No. 14, June 13, 1979.

⁷⁰NMGS DEIS, pp. C-5, C-6.

I-27

would not have to start until 1993. Since NMGS is not planned to start construction until 1991, a choice between direct-fired coal and coal-gas combined cycle could be made as late as 1990 and still allow 2 years for pre-construction design work. By 1990 Coolwater will have six years operating experience. If it works as planned, it will have proven the BLM incorrect, and a direct-fired plant need not be built.

99. pp. 3-50, 3-51. The BLM spends 2 paragraphs discussing out-of-state power sources and concludes that "the environmental effects would be similar to those . . . in New Mexico."

This is incorrect. An example is the contract for out-of-state power PNM made in 1982 with Southwestern Public Service Company (SPS), a Texas panhandle utility. PNM agreed to buy 100 MW of capacity and associated energy in 1991-95, increasing to 200 MW in 1995-2011. The contract has been submitted (unlike NMGS) to the New Mexico Public Service Commission for approval.⁷³ In prefiled testimony, PNM Vice President Bedford explains that this SPS contract is specifically superior to NMGS, and will allow NMGS to be delayed from 1993 to 1995.⁷⁴ Note that even without the SPS purchases Bedford shows NMGS unit 1 in 1993.

The BLM statement about similar environmental impacts is clearly false with respect to SPS. SPS does not have any existing or planned coal plants within 15 miles of two proposed wildernesses and a national park. SPS does not have any plants which would have major impacts on the Navajo Tribe. The SPS-PNM transmission line route would not pass adjacent to several WSAs and a national park. SPS does not plan to build any of its coal plants with the possibility of drawing down a major aquifer by over 2000 feet.⁷⁵ SPS does not have any plans, tentative or otherwise, to locate new plants in remote areas where entire new towns must be built to house their workers.

100. p. 3-51. Referring to a renewable resource alternative, the BLM says "this combination strategy might involve use of the following . . ."

The BLM never tells the reader what the "renewable resource alternative" is. The entire discussion under "Renewable Resource

⁷³Case 1794.

⁷⁴Id.

⁷⁵Coal DEIS, p. 3-29.

I-29

96. p. 3-49 "The level of analysis provides a benchmark against which the consequences of the Proposed Action can be weighed . . ."

This is the next sentence after the two quoted in comments 94-95. It makes no sense. What "level of analysis?" What is a "benchmark" for what? Certainly the level of analysis of PNM's proposal does not provide a benchmark for the level of analysis of alternatives, six of which are discussed in the next three pages.

97. p. 3-49. "Overall, the environmental effects of a coal conversion facility would be worse than for a conventional power plant such as NMGS."

This statement stands unsupported. The BLM should be aware that \$300 million is currently being spent on the Coolwater plant in California⁷⁶ because it is expected to demonstrate the feasibility of coal-conversion to meet California's notoriously strict air quality standards. The Coolwater plant is being financed in part by DOE and in part by PNM, through its contributions to the Electric Power Research Institute. If BLM really has evidence for the inadvisability of coal conversion, it should provide it in the DEIS.

98. p. 3-49. "For these environmental reasons, coupled with the fact that a full-scale coal conversion plant has not yet been built, it is likely that such a plant would be more complex than a conventional coal-fired plant with no environmental or cost advantage."

The BLM here demonstrates conclusively why processing an EIS in 1983 for a 1995-1999 project is wrong. The Coolwater plant began construction in 1981, with operation planned for 1984,⁷² a two-year construction period. It will have an electric capacity of 100 MW, two-thirds PNM's planned share of NMGS unit 1. PNM could replace its 300 MW share of NMGS units 1 and 2 with three Coolwater-sized units, 2 in 1995 and 1 in 1996. Construction

⁷¹Southern California Edison Company, press release, "Edison 'Slightly Ahead' of Schedule on Developing Alternative, Renewable Energy," February 26, 1983, p. 5.

⁷²California Energy Commission, "Project Status Report No. 4," April 1982, p. 276.

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Alternative" (one page) is vague and contains no quantitative analysis whatsoever. Could a renewable resource alternative be made up solely of conservation? Would it have to include all seven options listed? In what proportion? There is no way a decision maker can tell from the DEIS how the "Renewable Resource Alternative" compares to PNM's proposal. It goes almost without saying that the DEIS's one page violates NEPA requirements to "rigorously explore . . . all reasonable alternatives,"⁷⁶ treat alternatives substantially,⁷⁷ analyze the "energy requirements and conservation potential of alternatives,"⁷⁸ and include "Relevant information essential to a reasoned choice."⁷⁹

101. p. 3-51. "The environmental consequences of conservation are minor." (emphasis in original)

The sentence quoted is the entire analysis of conservation in the DEIS. The BLM doesn't say how much conservation is feasible on the PNM system, what it would consist of, what it would cost, how long it would take to implement, or anything else. If conservation has such major effects, why isn't it the "Agency's Preferred Alternative?"⁸⁰

102. p. 3-51. Three paragraphs discuss hydroelectric plants.

The DEIS omits any mention of any New Mexico-specific hydro projects, even the dozen-plus New Mexico dams for which FERC hydroelectricity permit applications have been filed. The discussion is completely non-specific and non-quantitative.

103. p. 3-51. Central-station solar gets one sentence.

Again, the DEIS manages not to say anything to let the reader know New Mexico is any different from New Hampshire. PNM itself has proposed retrofitting some of its oil and gas units to use solar-thermal power, but the DEIS doesn't mention this. Sandia Labs in Albuquerque gets DOE money to study power-towers, and operates a 5 MW (thermal) tower, but the DEIS ignores this.

⁷⁶CEQ Regulations, Section 1502.14(a).

⁷⁷Id., Section 1502.14(b).

⁷⁸Id., Section 1502.16(e).

⁷⁹Id., Section 1502.22(a).

⁸⁰NMGS DEIS, p. 1-42.

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New Mexico has one of the sunniest climates in the country and one of the lowest population densities, but the DEIS only talks about "potential for land use conflicts." Compare comment 23.

104. p. 3-51. Central station wind plants are dismissed in two sentences.

Again, the DEIS is inadequate for decisionmaking. The environmental issues associated with wind are limited to such things as interference with TV reception and "aesthetic problems." If the DEIS were taken seriously, the decisionmaker would have to choose wind over NMGS.

105. p. 3-51. Table 3-9 lists certain "unavoidable adverse impacts" to air quality from NMGS.

It is not true that the impacts listed are unavoidable, merely that PNM is not planning to avoid them and the DEIS does not discuss how to avoid them. The DEIS explicitly avoids discussing BACT, but existing SO₂ and NO_x control technology can mitigate emissions to levels far below those proposed by PNM.⁸¹

106. p. 4-3. The BLM admits that need issues and water allocation issues were major public concerns at public meetings.

The DEIS ignores both issues.⁸² The BLM does not meet its obligation to the public by repeating their concerns yet refusing to address them.

107. p. 4-6. The BLM says the selection of WCC as a contractor was made "solely . . . by the lead agency."

BLM omits the fact that it has no contract with WCC; only PNM does. BLM omits the fact that WCC was previously employed by PNM to do the site selection studies which led to the NMGS project.⁸³ The Council on Environmental Quality has specifically stated that, "when a consulting firm has been involved in developing initial data and plans for the project . . . a

⁸¹Cal Coal Report; *Power*, January 1983, pp. 105-6.

⁸²NMGS DEIS, p. 1-42.

⁸³See e.g., Site Selection Report.

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disclosure statement in the draft EIS should clearly state the scope and extent of the firm's prior involvement."⁸⁴

108. p. 4-8. WCC subcontractors included a PNM employee.

Applicants are not supposed to participate in writing DEISs for their own projects.

109. p. 4-9. Contributors to the DEIS included PNM staff.

See comment 108.

110. p. A-1. Alternatives were only considered if they could "supply or eliminate the need for at least 5 percent of the yearly energy NMGS would supply."

By using inaccurate sizes and dates for PNM's share of NMGS, the BLM incorrectly excluded alternatives. The BLM considered NMGS as a 2000 MW project coming on line in 1990-98, when it is actually a 600 MW project planned for 1995-99.

111. p. A-2. The footnotes to Table A-1 list a 1980 PNM report as a source.

No such report appears to exist. 1961 and 1962 PNM documents with the same title do exist. Is this a typographical error? Or has BLM once again relied on out-of-date data from the applicant?

112. p. A-4. One paragraph discusses coal conversion.

See comment 97.

113. p. A-4. One paragraph discusses out-of-state power sources.

See comment 99.

⁸⁴Federal Register, March 23, 1961, p. 18031.

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114. p. A-4. One paragraph discusses conservation and renewable resources.

See comments 100-104.

115. p. A-5. One sentence dismisses advanced NO_x control methods because they are "technically unproven."

First, selective catalytic reduction (SCR) NO_x control is in operation on some Japanese power plants, including at least one commercial-size coal plant.⁸⁵ Second, the California Air Resources Board and the San Bernardino Air Pollution Control District have both presented testimony that SCR is commercially available now for a desert-sited 500 MW coal unit in the southwestern United States.⁸⁶

In any case, PNM does not plan to start NMGS construction until 1991, so even if the BLM were right there is no reason to ignore flue gas controls in this DEIS.

116. p. A-5. The BLM does not consider possible uses of fly ash because "at the present time it is not known whether a commercial market might develop, where it would be located, or how the fly ash would be transported to market."

The BLM might have asked PNM. PNM has announced plans to build a billion dollar industrial plant in conjunction with NMGS to recover aluminum from fly ash.⁸⁷ It has had aluminum mining claims staked in the Bisti area since at least 1981, so the idea is not new. The DEIS omits any mention of this major industrial project which is dependent upon NMGS, would be physically interconnected with it, and would presumably have significant environmental and socioeconomic effects of its own. This violates the legal requirement that an EIS identify "reasonably foreseeable" consequences of proposed projects.⁸⁸

117. p. A-5. The BLM dismisses dry cooling as an option because of capital cost and land-use constraints.

⁸⁵Cal Coal Report, p.22.

⁸⁶Id.

⁸⁷New Mexico Sun, February 13, 1983, p. 2.

⁸⁸CEQ Regulations, section 1508.8(b).

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Land-use is not a problem. The map on p. 1-14 of the DEIS shows ample room within the proposed NMGS site for additional facilities. Capital cost is not a basis for refusing to even discuss an alternative, since it prevents any possibility of balancing environmental factors against cost. Also, the BLM apparently did not consider the operating savings in water cost which would result from investing in dry cooling. If PNM has to provide a plan for replacing water used by existing San Juan Basin water users, which is quite possible under New Mexico law, water costs could be very high.

Finally, an air-cooled commercial coal-burning power plant already exists in one arid state (the Wyodak 1 plant in Wyoming), suggesting that dry cooling cannot simply be rejected out of hand.

118. p. B-1. Construction would start in 1965, operation in 1990.

This is false.⁸⁹

119. pp. C-5, C-6. Table C-4 lists 13 coal mines included in the baseline analysis.

The list and data given contradict the Regional Coal DEIS. In that DEIS, production from existing mines and leases is given as under 30 million tons/year in 1995, the year of initial NMGS operation.⁹⁰ But the mines listed in Table C-4 for 1995 operation have planned production in that year of well over 30 million tons.⁹¹

On the other hand, the BLM has omitted the Gateway mine, already operating in T24N, R13W less than 5 miles from the NMGS site.

120. p. D-1. The BLM cites "NMPSC 1577, Transcript of Proceedings, August 11 and August 14, 1961" as a source for its Purpose and Need Technical Report.

This is the transcript in which PNM planner Cainski said (in 1961) that PNM did not plan any NMGS capacity until 1992, and

⁸⁹Id., quoting Vice President Ackerman of PNM.

⁹⁰Coal DEIS, p. 1-6.

⁹¹See Table A, Section II.D of this analysis.

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C. Detailed Comments on the "Purpose and Need Technical Report"

The Purpose and Need Technical Report (cited as "Need Technical Report") is "one of twenty-two technical reports developed as a basis for writing the Environmental Impact Statement" on PNM's NMGS. The Need Technical Report was written by Woodward-Clyde Consultants (WCC) under a contract with PNM, but published by the BLM. The specific comments below deal only with factual inaccuracies in the Need Technical Report.

1. p. 6-4. Table 6-1 presents 5 demand forecasts plus a baseline supply forecast (excluding NMGS) for energy in 1981-98.

All of the demand numbers are too high, and the supply numbers are too low from 1991 on. The "High" and "Potential Industrial" forecasts assume natural gas decontrol in 1982, which did not occur, so WCC should have known they were too high. All 5 forecasts include New Mexico Electric Company (NME) sales, but the PNM-NME merger was denied in December 1981. The "planned capacity" column excludes the contract between PNM and Southwestern Public Service Company (SPS), signed in November 1982.¹ The "Middle" forecast has been out of date since August 1982.² The Low and High forecasts were superseded in October 1982 by PNM's 1982 20-year forecast.³ The planned size of NMGS has always been only 30 percent of the level shown, and its planned operation date is (and has been since November 1982) five years later than the date shown. The differences are large. Where WCC shows a demand range in 1990 of 10,147 GWh to 17,045 GWh, PNM now shows a range of 7,034 to 8,926 GWh.⁴ The current High is lower than the former Low!

2. p. 6-5. Table 6-2 presents five demand forecasts for 1981-1998 peak demand, plus a baseline supply forecast (excluding NMGS) for capacity.

Same comment as #1, above. WCC shows 1990 PNM demand

¹Case 1794.

²SEP, Section B.

³1982 Forecast, p.62.

⁴Id.

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ranging from 1885-3217 MW. For the last 6 months PNM has forecast a range of 1103-1494 MW.⁵ Again, the 1982 High forecast is lower than WCC's Low forecast.

3. pp. 6-6 and 6-7. Figures 6-1 and 6-2 graphically depict Table 6-1.

See comment #1.

4. pp. 6-8 and 6-9. Figures 6-3 and 6-4 graphically depict Table 6-2.

See comment #2.

5. p. 6-10. Table 6-3 gives historical power and energy requirements for PNM.

None of the numbers match PNM figures.⁶

6. p. 6-11. Table 6-4 expresses the various PNM forecasts previously cited in terms of annual average growth rates.

All of the numbers are too high, since WCC is using out-of-date PNM forecasts. See comments 1 and 2.

7. p. 6-15. "PNM's middle scenario projects that existing and planned capacity will not be sufficient by the early 1990s."

First, PNM's middle scenario doesn't "project" anything. A demand forecast must be coupled with a resource plan before anything can be said about need. PNM's current resource plan adds 150 MW of new PNM capacity in 1995, and that is only because PNM contractually loses 136 MW of supply from San Juan 4 that year, not because of demand growth ~~per se~~.⁷

8. p. 6-16. "The forecast which PNM is using as a basis for determining that one unit of NMGS may be needed as early as May

⁵Id.

⁶SEP, p. B-12, August 1982.

⁷Id., p. C-8.

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1990 is higher than the most likely, or expected, future need for electricity. Within the utility industry it is accepted practice to use higher than expected forecasts in the early stages of planning for new electrical generating facilities."

First, PNM is not in the "early stages of planning." It is applying for a permit and going through the principal federal review (this Environmental Impact Statement process) of the project. The "early stages," as WCC should know since it did the work, were the site selection studies of 1975-1977, six years ago.

Second, it is not "accepted practice" to use too-high demand forecasts in permitting cases. EDF and its consultants have been involved in a number of powerplant siting cases in the last 5 years. In none of these cases did a utility attempt to justify building a new powerplant with any forecast other than one it believed in and would testify to under oath.

Finally, it is certainly not historical PNM practice to use any forecast other than its official one in permitting cases. In testimony before the New Mexico Public Service Commission regarding participation in San Juan 4 (Case 1452), the Baca Geothermal plant, its general long-run planning (Case 1577), NMGS (Case 1693) and the proposed Eastern Interconnection (Case 1794), PNM has always relied on its official forecast.

9. p. 6-17. WCC accepts as "reasonable" PNM's explanation that forecast and resource discrepancies can be explained by "more recent information and developments."

WCC gives no evidence to explain its credulity. For the last 5 years, each successive PNM forecast has been lower. There have not been any increases in PNM forecasts based on "changed assumptions," "more recent information," or anything else.

10. p. 6-17. WCC accepts as "reasonable" PNM's explanation that some "forecasts were prepared for purposes other than planning construction."

This is true, but the particular forecast in question is PNM's 20-year forecast, which is precisely the one which "forms the basis for system expansion planning."⁸ It is not reasonable for PNM to rely on any forecast but its official one (now

⁸1981 Forecast, p. 1.

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available in an October 1982 edition⁹) for long-range resource planning.

11. pp. A-1 to A-42. Material furnished by PNM is reprinted.

PNM's material is out of date. It includes NME. It ends with a "Planning Scenario" (p. A-42) which is not the scenario used by PNM in any of its other resource planning documents (cf. New Mexico Public Service Commission Cases 1452, 1577, 1693, 1794 and SEP).

12. p. B-3. Table B-1 contains capacity demand forecasts.

See comment #2.

13. p. B-4. Table B-2 contains energy demand forecasts.

See comment #1.

14. p. B-5. Table B-3 shows future PNM energy and capacity resources.

The table omits PNM's purchase from SPS in 1991.¹⁰ It omits the 44 MW of capacity (without energy) available to PNM from El Paso Electric Company (EPE), as shown by EPE in case 1577 and at the prehearing conference for its 1983 rate case.¹¹ It omits already operating cogeneration capacity.¹²

15. p. B-7. Table B-5 shows "net surplus/deficit capacity."

The numbers are all wrong, since they include non-existent demand but omit real resources.

16. p. B-8. Table B-6 is the energy equivalent of Table B-5.

⁹1982 Forecast.

¹⁰Case 1794.

¹¹See also Boondoggle.

¹²Conservation Plan, January 1983, p. 7.

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See comment 15.

17. p. B-62. "PNM's low scenario projects that existing and planned capacity will not be sufficient by the mid 1990s."

This is false. PNM's low scenario shows peak demand of 1350 MW in the year 1998,¹³ implying a need (with a 20 percent reserve margin) for 1620 MW of resources that year. PNM's actual resources for 1998 will be (according to PNM itself) 1945 MW excluding NMGS,¹⁴ far more than needed under the low scenario.

18. p. B-63. "PNM's middle scenario projects . . . 620 MW would be needed by 1995 [to maintain a 20 percent reserve margin]."

This is false. Using its middle scenario, PNM now projects needing (without NMGS) only 113 MW in 1995.¹⁵ 44 MW of this could come from El Paso Electric Company under an existing contract,¹⁶ leaving a 1995 PNM "need" under its 1982 long-range forecast of less than 70 MW.

¹³1982 Forecast, p. 63.

¹⁴SEP, p. C-8.

¹⁵Id.

¹⁶Boondoggle, p. 9.

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D. Detailed Comments on the "Alternatives to the Project Technical Report"

The Alternatives to the Project Technical Report (cited as "Alternatives Technical Report") is "one of twenty-two technical reports developed as a basis for writing the Environmental Impact Statement" on PNM's NMGS. The Alternatives Technical Report was prepared by Woodward-Clyde Consultants (WCC). In general the Alternatives Technical Report suffers from lack of depth and a misunderstanding of what an alternative should be. Many options are rejected because they are claimed to be unavailable soon enough or in sizes large enough to match the 1990 operation date stated for NMGS Unit 1 or the 2000 MW total stated for the project. PNM's own plans, however, allow five extra years for implementation (Unit 1 in 1995, not 1990) and reduce the size by 70 percent (to a total 600 MW, not 2000 MW).⁹ Thus the potential for alternatives comparable to NMGS is much greater than that considered in the Alternatives Technical Report.

Where a statement in the Alternatives Technical Report has been used in the main body of the DELS, and commented on there, no comment is included here.

1. p. 3-9. "The end of PNM's planning period for NMGS is 1998."

This is incorrect. It is 1999.²

2. p. 3-9. "The annual energy output from NMGS . . . would be . . . 11,388 Gwh/hr [sic; WCC meant per year, not per hour]."

For PNM, this is false. PNM's share would be only 30 percent of 11,388 Gwh/yr. Since WCC only considers PNM alternatives (i.e. there is no consideration of conservation in Arizona, or small hydro in California), it should only consider PNM's share of NMGS.

3. p. 4-6. Conservation "could only provide for a fraction of the energy that NMGS would supply."

¹SEP, p. C-8.

²Id.

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WCC's own figures show a potential savings from conservation of over 550 Gwh/yr by 2001 in the residential sector alone.³ But the residential sector represents only 28.2 percent of PNM's projected sales in the year 2001.⁴ Assuming, for simplicity, that equivalent savings were available from other sectors, total PNM conservation would exceed 1950 GWh in 2001. But conservation savings also avoid transmission and distribution losses, which are equal to 5.35 percent of PNM's sales in 2001.⁵ So conserving over 1950 GWh would actually save PNM over 2050 GWh of generation in 2001. PNM's share of NMGS, 600 MW, corresponds (at a 65 percent capacity factor) to 3416 GWh. Thus conservation alone could save over 2050/3416 = 60 percent of NMGS. It is true that 60 percent is "only a fraction", but it is a bigger fraction than WCC's statement implies.

4. p. A-1. WCC quotes a January 1982 letter to BLM from PNM saying the NMGS units would begin operation in 1990, 1993, 1995, and 1998.

This is false now⁶ and it was false in January 1982.⁷

5. Appendix A. This appendix lists technologies considered by WCC as possible alternatives.

Atmosphere Fluidized Bed Combustion technology is omitted. PNM itself says that this method of burning coal is expected to be commercially available by 1992, at a lower cost than direct-fired coal technology (\$790/kW versus \$1076-1350/kW, on a common cost basis).⁸

6. p. A-10. WCC rejects small hydro as an alternative because its 313 GWh per year potential is "less than 5 percent of the proposed NMGS load."

PNM's share of NMGS is 3416 GWh per year (see comment 3). 313 GWh per year is more than 5 percent of 3416 GWh per year.

³Alternatives Technical Report, pp. A-33, A-34.

⁴1982 Forecast, p. C-2.

⁵Id., p. C-4.

⁶SEP, p. C-8; Case 1794.

⁷Cainski.

⁸Conservation Plan, January 1983, pp. 48, 56.

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7. p. A-13. WCC rejects solar thermal repowering as too small.

PNM has 271 MW of existing oil/gas fired steam plants. Repowering them to produce even 100 MW of solar power at a 30 percent capacity factor would mean 262 GWh per year, more than 5 percent of PNM's proposed share of NMGS. It is ironic that the solar thermal repowering alternative is rejected, since it is one alternative which PNM has already studied.⁹

8. p. A-24. WCC rejects Municipal Solid Waste as an alternative because "the total annual resource in PNM's service area . . . indicate 1 to 3 percent of the proposed energy output of NMGS."

1 to 3 percent of NMGS corresponds to 3.3 to 10 percent of PNM's share of NMGS, exceeding the 5 percent screening limit.

9. p. A-28. WCC rejects high-temperature gas [nuclear] reactors (HTGRs) as an option, based on timing.

While EDF certainly does not endorse an HTGR alternative to NMGS, BLM should be aware that DOE is currently spending several hundred thousand dollars to study a possible New Mexico site for a 300 MW HTGR to be built in the mid-1990's.

10. p. A-32. WCC lists potential out-of-state projects.

a. The "Southwest Project" and the "Colorado-Ute Project" are the same.

b. WCC omits Southwestern Public Service Company (SPS), which has signed a contract to sell PNM 200 MW, at up to a 95 percent capacity factor, in 1995-2011.¹⁰

c. WCC omits the Sunflower Electric Cooperative (in Kansas), which has offered to sell 100 MW to PNM in 1988-98.¹¹

11. p. A-33. WCC estimates conservation potential at 550 GWh per year.

This estimate is for the residential sector only, and ignores conservation beyond existing PNM standards and also

⁹Alternatives Technical Report, p. 3-2.

¹⁰Case 1794, PNM-SFS Contract, Service Schedule C.

¹¹Case 1794, pp. 10-11.

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ignores transmission and distribution loss savings. See comment 3.

12. p. B-2. WCC has developed a "single 'conservation and renewable resource' alternative."

This alternative is sized too large (see the introduction to these comments on the Alternative Technical Report) and fails to include any conservation or point-of-use solar heating.¹² What kind of a "conservation" alternative has no conservation in it?

13. p. B-4. "The renewable alternative must meet PNM's 1998 projections . . . the remaining need [after currently-planned projects are considered] is 1026 MW and 7139 GWh."

Taken at face value, this statement means that PNM does not need 2000 MW of NMGS even with the forecasts it gave WCC. Thus this statement contradicts WCC's finding of "reasonableness" (in the Purpose and Need Technical Report) regarding PNM's need analysis.

Using PNM's 1982 data, PNM's needs are much less. In fact, PNM has a need for only 113 MW of capacity, and no need for energy through 1995. (There is no reason to consider need beyond 1995. If alternatives don't work out, PNM can reapply in 1988 for a coal plant for 1996, and have ample time to build it.)¹³

PNM's 1995 energy and capacity forecasts are 10,614 GWh for energy requirements and 1715 MW for capacity, including losses.¹⁴ Adding a 20 percent reserve margin for capacity gives a 2058 MW requirement.¹⁵ PNM's capacity resources in 1995, excluding NMGS and El Paso Electric Company resources, will be 1945 MW, leaving a capacity need of 113 MW.¹⁶ PNM energy resources in 1995, excluding SPS and San Juan 4 recapture, will be 10,407 GWh.¹⁷ PNM will lose 116 MW (net) of San Juan 4 on May 1, 1995. It will gain 100 MW from SPS on the same date, in addition to 100 MW from

¹²Alternatives Technical Report, p. B-7.

¹³See Boondoggle, pp. 1-4, for a more complete discussion of why licensing projects scheduled for 1995-1998 makes no sense in 1983 no matter what the "need" for them.

¹⁴1982 Forecast, p. 15.

¹⁵See SEP, C-8.

¹⁶SEP, p. C-8.

¹⁷Id., p. C-10. (Based on average for 1988-92, all available years following Palo Verde 3 commercial operation).

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SPS it will already have.¹⁸ SPS cannot restrict PNM to less than a 95 percent capacity factor unless PNM agrees.¹⁹ San Juan 4 will have at most an 80 percent capacity factor. So PNM will lose at most 542 GWh from the San Juan 4 sale, but it will be entitled to at least 1360 GWh from SPS if it desires to this energy. Thus, PNM's total energy resources in 1995 will exceed 11,200 GWh, and it will not need any energy.

Therefore, PNM's 1995 need, using the company's own demand forecast and supply plan, will be 113 MW of capacity, and no energy at all. There is a need for capacity, not energy, and if WCC had done a similar analysis they would have included that virtually any of the alternatives could meet PNM's 1995 need. They would also have concluded that a new baseload coal plant is not needed to assure reliable 1995 service to PNM's customers.

¹⁸Case 1794, PNM-SPS Contract, Service Schedule C.

¹⁹Case 1794, PNM-SPS Contract.

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APPENDIX

PNM's Transmission Requirements for 600 MW Project

PNM's current plans include 150 MW from NMGS in 1995, increasing to 600 MW in 1999-2002. The DEIS examines alternatives which include granting right-of-ways to over 200 miles of 500 kV transmission lines between NMGS and Pajarito (Albuquerque area). Even if it were appropriate for the BLM to grant permits in 1983 for activities which will not commence until 1995-1999, which it is not¹, PNM's plans for 600 MW do not require approval of any transmission corridor except the 5-mile T5 corridor.

Current PNM transmission lines from northwest New Mexico to the Rio Grande Valley include the San Juan-Ojo Caliente 345 kV line, two Four Corners-Albuquerque 345 kV lines, and the Four Corners-Ambrosia-Albuquerque 230 kV line. In addition, the 500 kV Four Corners-Ambrosia-Pajarito (FC-A-P) line is planned for 1988² and already approved by the BLM.³ While transmission line capacity is dependent on many factors and can only be accurately determined by load flow studies, common rules-of-thumb hold that

¹See Boondoggle, pp. 1-4, for an extensive discussion of this point.

²SEP, p. E-21.

³NMGS DEIS, p. 1-4.

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a 500 kV line can carry 1000 MW, a 345 kV line 500 MW, and a 230 kV line 200 MW. For reliability purposes, a transmission system must be able to operate with any given line out (a "single-outage contingency"). For the 1990s northwest New Mexico system, the worst single contingency would undoubtedly be an outage on the FC-A-P line. Let us assume that NMGS is built, with the 5-mile T5 corridor loop into NMGS from the FC-A-P line as proposed for Unit 1,⁴ and consider the results of an FC-A-P line outage.

First, suppose the outage was on the Four Corners-NMGS section of the line. Then the NMGS-Ambrosia-Pajarito section would still be useable, and could more than carry PNM's 600 MW entitlement to Albuquerque.

Second, suppose the outage were between NMGS and Pajarito. Then the NMGS-Four Corners segment could carry PNM's 600 MW from NMGS to Four Corners. From the Four Corners area PNM would still have three 345 kV lines, plus a 230 kV line, with a nominal transfer capacity of 1700 MW. PNM's peak load, even in 1998, will be only 2,010 MW.⁵ At least 130 MW of that will be in the Deming and Western Divisions,⁶ and thus unaffected by loss of transmission to the Rio Grande Valley. PNM will also have 200 MW

⁴Id., p. 1-20.

⁵SEP, p. C-8.

⁶Id., pp. G-20, G-32.

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deliverable to the Rio Grande Valley from the east,⁷ and 291 MW of existing generation at Albuquerque and Las Vegas, New Mexico.⁸ In total, PNM would have 2191 MW of transmission capacity and local generation to meet a peak demand of under 1,880 MW. Thus, even in this worst-single-outage situation, no new NMGS transmission line would be needed to carry 600 MW other than a 5-mile loop into the FC-A-P line.

Two additional points must be made. First, the actual transmission grid provides even more reliability than the one discussed above because of the existence of more roundabout pathways (e.g., by displacement from the Palo Verde nuclear plant in Arizona via El Paso Electric to PNM, or the two San Juan-McKinley 345 kV and Gallup-Ambrosia-Albuquerque 115 kV lines).

Second, the analysis above does not indicate a pathway for the other 1400 MW of proposed NMGS generation. The omission of any such analysis follows from the DEIS's lack of consideration of any long-term market other than PNM for NMGS output. The dropping of out-of-state transmission lines from the DEIS in 1961⁹ was caused by PNM, and the burden is on PNM to say where, if anywhere, it can sell 1400 MW. The application is only for right-of-ways to Albuquerque, so this appendix has only dealt

⁷Case 1794, PNM-SPS contract, Service Schedule C.

⁸SEP, p. C-8.

⁹NMGS DEIS, p. S-1.

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with the adequacy of the T5 corridor to meet 100 percent of PNM's proposed transmission requirements from the Bisti area.

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COMMENTS ON THE

SAN JUAN RIVER REGIONAL COAL

DRAFT ENVIRONMENTAL IMPACT STATEMENT

A. Introduction

The San Juan River Regional Coal Draft Environmental Impact Statement (DEIS) examines five different leasing levels for a proposed September 1983 lease sale in northwest New Mexico. The amounts of coal to be leased range from 2.2 billion tons of federal coal in the so-called "No Action" alternative¹ to over 4 billion tons in the "High Level Alternative."²

The preferred leasing level (the "Target Alternative") is over 3.5 billion tons, with 2.2 billion tons leased through Preference Right Lease Applications (PRLAs) and 1.32 billion tons leased through competitive bidding.³ The Target Alternative is preferred in order to meet the leasing target selected by the Secretary of the Interior, and to help satisfy the alleged "anticipated coal demand in the region" and to ensure "that federal coal is available to meet the country's energy needs."⁴

A detailed analysis of the available data on the demand for, and supply of, San Juan Region coal, however, shows that BLM's stated goals can be achieved without the proposed lease sale. Coal demand in both the region and the nation will be amply met under the "No Action" alternative. Indeed, even the 2.2 billion

¹Coal DEIS, p. viii.

²Coal DEIS, p. viii, 1-11.

³Coal DEIS, pp. viii, 1-10.

⁴Coal DEIS, p. 1-1.

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tons of PRLA coal is unnecessary; coal demand for the next decade can be met solely from existing mines and leases.

As the following comments discuss, the DEIS is littered with inaccuracies and unsupported data with respect to coal supply, demand, reserves, and production capacity. For example, the DEIS contradicts other BLM documents dealing with San Juan River Region coal leasing and backup documentation supplied to EDF by the BLM in part contradicts the DEIS. Some key conclusions in the DEIS have no written support at all. The BLM has ignored analyses by the BLM's Minerals Management Service as to coal production capacity in the San Juan basin, and has ignored the difference between mining capacity and actual production. It has assumed the Star Lake Railroad will be available to transport newly leased coal, but at the same time has assumed that existing lease production will be constrained by the lack of that same railroad, thus exaggerating future marketability and understating supply from existing leases.

If the BLM goes forward with PRLA issuance and the Target Alternative leasing, several undesirable and illegal results will occur. First, the New Mexico coal market will be utterly glutted for many years to come, driving down prices and hence tax revenues to both Federal and State governments. Second, the lease sale itself will be a fiasco like the April 1982 Powder River Lease sale. Bonus bid revenues will be minimal, probably below the fair market value that more orderly leasing would

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Finally, all of the above negative impacts will occur without any of the offsetting employment and economic development benefits touted in the DEIS. Because existing mines and leases are sufficient to meet the demand for San Juan River coal, any production from new leases will come only at the expense of constrained production at existing mines and leases. Thus new jobs will be created only at the expense of foregone jobs at existing mines and leases. Leasing will not create any new jobs that would not have existed anyway.

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produce. Some tracts may not receive any bids at all. Most tracts will have only a single bidder, eliminating the competition which is supposed to occur at lease sales. Third, since leasing 3.5 billion tons of coal at once will meet market demand for at least the rest of the century, industry interest in any future State, Indian, or even Federal leasing will be reduced and hence future sales will produce less revenue. Nowhere in the DEIS is there any analysis of the negative economic impacts on the State and tribal governments of overwhelming the market with federal coal. Fourth, by leasing 3.5 billion tons at once the government turns over to private industry the land use decisions as to which coal will be produced in what order. The DEIS admits that, "Ultimately, the economic market and demand for coal will determine which tracts will be developed."⁵ The DEIS fails, however, to discuss the fact that in the San Juan Basin, with its wilderness values, its rich cultural history (including Chaco Culture National Historic Park), its unique paleontological values and the thousands of Navajo Indians living there both on and off the reservation, coal leasing involves many external costs not adequately valued by the economic marketplace. The BLM thus ignores its land management duties under the Federal Land Policy Management Act.

⁵Coal DEIS, p. 1-3.

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B. Review of the Methodology and Assumptions of the San Juan River Regional Coal Draft Environmental Impact Statement

1. Need for Leasing

The reason for leasing coal is to meet the demand for coal. Both the preliminary leasing target and final leasing targets were set largely with regard to meeting coal demand.¹ At Regional Coal Team (RCT) meetings demand was presented to the public as the driving force behind leasing.² The DEIS also states demand is the primary basis for leasing.³

The BLM's own methodology for setting both preliminary and final leasing target indicates, when current data are used, that no coal should be leased. BLM's response to this has been to ignore more recent data, and to disavow its own methodology.

BLM's methodology made explicit assumptions with regard to demand, mine life, baseline production (i.e., production under the "No Action" alternative) and recovery factors. In order to promote competition, both targets include at least twice as much coal as would be necessary just to meet demand. As early as February 1982 the BLM was informed that its methodology implied,

¹Burford to Carruthers memo; Luscher to Burford, 1981; Luscher to Burford, 1982.

²Monroe and Marcus memo; Minutes, Regional Coal Team meeting of September 2, 1981 and December 2, 1981; Millenbach, pp. 4-7.

³Coal DEIS, p. 1-1.

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given current data, that no coal should be leased.⁴ The BLM continued to use the same leasing target, based on obsolete data. When asked in 1983 for documentation of the baseline production numbers which underlie the claimed need for new leasing, BLM produced only an April 1982 memo from Charles Luscher, Director of the New Mexico State BLM office to Robert Burford regarding final leasing targets,⁵ and said no more recent analysis existed.⁶ The DEIS admits that "the need for leasing . . . is based in part on [January, 1981] production goals from the DOE."⁷

Thus, to analyze the need for leasing it is necessary to begin with the various memos accompanying the setting of the preliminary and final lease targets in 1981 and 1982. This analysis will show that BLM used a specific quantitative formula to produce very precise numbers, a formula which it never published, never admitted to in writing, and tried to claim was proposed by others.⁸ When new data became available, the BLM abandoned its formula but kept its leasing targets intact.

In the Burford to Carruthers memo regarding the "San Juan River Coal Region Preliminary Leasing Target," the first two sentences of the Executive Summary read:

⁴Monroe and Marcus memo.

⁵Luscher to Burford, 1982.

⁶Day, personal communication, March 7, 1983.

⁷Coal DEIS, p. 4-3.

⁸Luscher to Burford, 1982, p. 2. But elsewhere BLM said, "this formula is set in the regulations." (Millenbach, p. 7.)

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by BLM.⁹

The meaning of Equation (1) can be explained straightforwardly. $(G - B)$ measures the excess of demand, G (as determined by DOE's production goal) over the supply, B , that will be available without further leasing. This "gap" between demand and supply is measured in tons per year, a rate of production. The other three factors, F , Y , and R , are used to calculate how many tons of reserves must be leased to close the "gap" between demand and production. The coefficient "F" allows for the fact that when Federal coal is leased, various factors, such as checkerboard land ownership, lead to non-federal coal also becoming available for production. Setting F equal to .77 is equivalent to saying that in order to make one ton available for mining only .77 Federal tons need be leased. The factor Y , the years of mine operation, determines how much coal must be leased in order to get a desired amount per year. If a mine will operate for 40 years, then each ton/year of production requires 40 tons of coal in the ground. In general, the bigger Y is (i.e., the longer the mine will last), the more coal must be leased. Since diligence requirements say that all leased coal must be produced within 40 years of the start of mining,¹⁰ 40

⁹Millenbach, pp. 4-7, also discusses at length Equation 2, its meaning, and its use by the BLM.

¹⁰Coal DEIS, p. 1-12.

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DOE's 1990 production goals for the region are 54.5, 57.6 and 58.9 million tons per year. Assuming a 40 year mine life, 77 percent Federal coal, an 80 percent recovery rate, and an expected baseline production of 41 million tons without new Federal coal leasing by 1990, the corresponding leasing targets would be 519.8, 639.1, and 685.3 million tons, respectively.

No explanation is given, but the mathematics involved are easily deduced. The connection between the various assumptions and the "corresponding leasing target" is summarized in Equation (1):

$$L = (G-B)(F)(Y)/(R) \quad (1)$$

where L is the leasing target (in millions of tons), G is the DOE production goal (in millions of tons/year), B is baseline production (in millions of tons/year), F is the Federal fraction of San Juan Basin coal to be leased, R is the recovery rate, and Y is mine life (in years). Equation 2 shows the results of Equation (1) for the specific case of the low DOE goals ($G = 54.5$ million tons/year) and the other assumptions stated in the quotation above:

$$L = (54.5 - 41)(.77)(40)/(.80) \quad (2)$$

Performing the arithmetic yields 519.8 million tons, as stated in the quotation, confirming that Equation (1) is the equation used

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should be the maximum value for Y . Finally, the factor R reflects the fact that not all coal in the ground is recoverable. If only 80% is recoverable (the preliminary target assumption used by the BLM), then each ton leased will only lead to 0.8 tons produced. The smaller R is, the more coal must be leased.

The formula in Equation (1) represents a straightforward and logical method of determining the need for new leasing. But if the formula (using the BLM assumptions quoted above) gives leasing targets of 519.8 to 685.3 million tons, how did 1.32 billion tons come to be the Target Alternative? The answer lies in BLM's claim that "the assumption that every tract leased will be developed, probably leads to inevitable shortfalls in Federal coal leasing."¹¹ The BLM proposes to lease more tracts than are warranted simply by demand, to allow for underforecasting of demand¹² and to promote competition among leaseholders.¹³ By leasing twice as much coal (say) as is needed, the BLM argues that forecasting error problems will be avoided and only the least costly 50 percent of the leased coal will have to be developed. Thus Equation (1) must be revised to add a competition factor (call it "C"), as shown in Equation (3):

$$L = (C)(G-B)(F)(Y)/(R) \quad (3)$$

¹¹Burford to Carruthers memo, section 2.A.

¹²Id.

¹³Id., section 2.B.

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The preliminary leasing target of 1.2 to 1.5 billion tons¹⁴ when compared to the 519 to 685 million tons levels quoted above, implies a value of approximately 2.25 for C, although BLM has also cited a value of 2 for C.¹⁵

EDF has no objection to the use of Equation (3) in setting lease targets. The BLM has publicly claimed that Equation (1) "is set in the regulations."¹⁶ However, it is obviously important to use correct values for C, G, B, F, Y, and R. The BLM's record in the San Juan Basin has been one of constant obfuscation ever since its faulty numerical analysis was first identified in early 1962.¹⁷

As stated above, the initial leasing targets were based on $G = 54.5$ to 58.6 , $B = 41$, $F = .77$, $Y = 40$, $R = .80$, and an implicit C of 2.25, yielding a leasing target L of about 1.2 to 1.5 billion tons. The DEIS itself contains updated values for most of these factors used in setting the preliminary leasing target. The updated data in the DEIS lead to a different value for the target leasing level.

BLM has not updated the production goal, G, since the January 1981 figures used to calculate the preliminary leasing

¹⁴Luscher to Burford, 1982.

¹⁵Millenbach, p. 7.

¹⁶Id., p. 7.

¹⁷Monroe and Marcus memo.

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target, and no updated figures are expected.¹⁸ The DEIS shows baseline supply, B, to be 48 million tons per year in 1990,¹⁹ rather than the 41 million tons per year assumed in setting the preliminary leasing target. The portion of Federal coal that needs to be leased, F, is .63 for the actual tracts in the DEIS Target Alternative.²⁰ For mine life, Y, the 24 tracts in the Target Alternative²¹ have an average expected life of only 26 years²² compared to the preliminary leasing target estimate of 40 years. The fraction of reserves which are recoverable, R, is .57 for the tracts in the Target Alternative.²³

Using the BLM's updated data, along with the assumption that leasing must be ~~twice~~ as great as the amount needed to meet production goals ($C = 2$), in Equation (3) leads to the following calculation:

$$L = (C)(G-B)(F)(Y)/(R) \\ = 2[(54.5 \text{ to } 58.6) - 48](.63)(26)/(.57) \quad (4) \\ = 374 \text{ to } 626 \text{ million tons.}$$

Thus BLM's own data (from the DEIS) and BLM's own methodology (disavowed,²⁴ but never replaced with any other method of setting

¹⁸Day, personal communication, February 9, 1983.

¹⁹Coal DEIS, p. 1-6.

²⁰Id., p. 2-9.

²¹Id.

²²Id., Appendix A.

²³Id., p. 2-9.

²⁴Luscher to Burford, 1962, p. 2.

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leasing targets) indicate that the target leasing level, 1.2 to 1.5 billion tons, is 2 to 4 times too high.

But Equation (4) is only the beginning of the story. Both G (the DOE production goals) and B (baseline production) are wildly inaccurate. Correcting either reduces the appropriate leasing level to zero. Correcting both suggests that even the "No Action" alternative, leasing 2.2 billion tons of PRLA coal, is unnecessary.

The DOE goals (factor G) for the San Juan Region were published in January 1961.²⁵ The DOE goals are based on an analysis of the demand for coal,²⁶ with production goals then set so as to meet the forecasted demand. Since San Juan Basin coal is generally low quality, it is not used for metallurgical purposes. Current use is overwhelmingly (over 90 percent) in powerplants, and future use is expected to be for powerplants and (eventually) synfuels. The DOE goals use 1980 electricity demand forecasts, which were based in part on forecasts made by electric utilities.²⁷ For the last half dozen years electric utility forecasts in general have fallen in each successive year.²⁸ In the Southwest, load growth has also slowed, and numerous coal-fired powerplants have been delayed or scaled back since 1979,

²⁵DOE Goals.

²⁶Id., p. xvii.

²⁷Id., p. 35-38.

²⁸Electrical World, September 1982, front cover.

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including the 2000 MW New Mexico Generating Station in New Mexico,²⁹ the 800 MW Southwest plant in western Colorado,³⁰ 1500 MW of the Intermountain Power Project in Utah,³¹ the 2500 MW Allen-Warner project in Utah and Nevada,³² and the 1500 MW Ivanpah project in southern California.³³ These cutbacks affect both the high and low DOE goals. In addition, the DOE low and high production numbers include 5.3 and 10.6 million tons/year respectively, of New Mexico coal to fuel synfuels plants. The medium and the high DOE numbers assume that a coal-fired replacement is required in 1990 for the Palo Verde 3 nuclear power plant in Arizona.³⁴ Neither synfuels plants nor Palo Verde replacements have so much as a proponent, let alone any chance of occurring by 1990. As the DOE itself says, "the leasing target appropriate to a lease sale should take into account . . . changing market conditions."³⁵

While DOE has not updated its now hopelessly high and outdated demand forecasts, the State of New Mexico in 1982 commissioned a major study of the long-run market for New Mexico

²⁹SEP, p. C-8.; Cainski.

³⁰Federal Register, November 16, 1982, p. 51947.

³¹Bono Prospectus, IPA Bonds Series 1963A, February 1963.

³²Wall Street Journal, February 16, 1983.

³³Southern California Edison Company, various 1979-1982 resource plans filed with the California Energy Commission.

³⁴DOE Goals, p. 66.

³⁵Id., p. 101.

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coal.³⁶ That report contains both econometric³⁷ and end-use³⁸ analyses of the market for San Juan Basin coal. The end-use study surveyed utilities from Arizona to Missouri, and listed all the powerplants which might use New Mexico coal. A similar survey was conducted for industrial users. Since powerplants account for over 90 percent of the coal demand in the end-use estimates, and since any coal-fired powerplant which will be built between now and 1995 has almost certainly entered the planning stage already, the end-use survey is almost certainly exhaustive. Powerplant demand for New Mexico coal in 1990-1995 may be lower than the numbers in the study if deferrals continue, but it is unlikely to be higher.

Table 1 shows the basic conclusions of the end-use analysis:

³⁶New Mexico Coal Market Study, sponsored by the New Mexico Energy Research and Development Institute.
³⁷By Data Resources, Inc. (DRI).
³⁸TBS Coal Study.

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production and no new leasing is necessary.

Faulty demand estimates are only half the BLM's problem, although sufficient by themselves to justify the No Action alternative. The other major fallacy in BLM's numbers lies in B, the baseline projection of production without further Federal leasing. The preliminary leasing targets were based on B = 41 million tons per year in 1990.⁴³ The final leasing target recommendations were accompanied by the value B = 48 million tons/year.⁴⁴ The DEIS splits B into two parts, production from PRLAs and production from all other sources, and graphically presents them for the years 1987, 1990, 1995 and 2000.⁴⁵ The PRLA values (1.6 million tons/year in 1987, 10.4 million tons/year in 1990, and 20.5 million tons/year in 1995 and 2000) come from year-by-year, mine-by-mine estimates which the BLM has made available to EDF.⁴⁶ There is no written basis for the "other sources" category other than the memo dated March 16, 1982 from Luscher to Burford recommending final leasing targets⁴⁷ which gives 48 million tons/year for PRLA and other sources together.⁴⁸

The lack of data for the "other sources" category is not

⁴³Burford to Carruthers memo, section 2.A.
⁴⁴Luscher to Burford, 1982, p. 4.
⁴⁵Coal DEIS, p. 1-6.
⁴⁶Hamilton.
⁴⁷Day, personal communication, March 7, 1983.
⁴⁸Luscher to Burford, 1982, p. 4.

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Table 1
 Demand for New Mexico Coal³⁹
 (million tons/year)

Year	1990	1995
Demand ⁴⁰	26.2-33.3	32.0-47.1
Adjusted Demand ⁴¹	26.2-33.3	32.0-43.9

Table 1 shows that even by 1995 demand will be far below DOE's low 1990 goal. Once the deferral of NMGS is taken into account, then the utility-by-utility survey of industrial users and powerplants indicates a 1995 demand for only 32 to 44 million tons/year.

Substituting even the highest adjusted demand estimate from Table 1, 43.9 million tons/year in 1995, into Equation (3) in place of the DOE goals yields Equation (5):

$$L = (C)(G-B)(F)(Y)/(R) \\
= (2)(43.9-49)(.63)(26)/(1.57) \quad (5) \\
= -293 \text{ million tons}^{42}$$

The negative value for L means demand is less than baseline

³⁹Includes Raton Basin coal, which is not part of the San Juan River Coal Region; excludes Colorado portion of the San Juan River Coal Region.
⁴⁰TBS Coal Study, Exhibit 1-D-1.
⁴¹Excludes 1.2 million tons/year for NMGS 2 and 3 which TBS included but which PNM has deferred past 1995.
⁴²Coal DEIS, p. 1-6. 49 million tons per year is the 1995 DEIS value for B.

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due to a lack of attention. Estimates of future production have been made by coal companies, by the state, by Minerals Management Service (MMS), and by BLM employees. The trouble (from the BLM's point of view) is that all these estimates are too high, and if acknowledged would destroy the basis for holding a 1983 lease sale. So the DEIS ignores the subject, except for the undocumented numbers on p. 1-6.

Table 2 summarizes various estimates of 1990 production capacity and shows how the BLM's 41 and 48 million tons/year figures are reached by omitting whole categories of production. Table 3 does the same for 1995.

Tables 2 and 3 show that the total production estimates made by others (except the RCT, which counted only 2 out of 6 categories) are from 20 to 95 percent higher than those in the DEIS. The DEIS shows non-PRLA production actually declining over 20 percent in 1990-1995.⁴⁹

One possible explanation for the low values of BLM's numbers is that the BLM has confused production with production capacity. It is true that the various forecasts are for production capacity. MMS does not even have a forecast for what actual future production will be.⁵⁰ The only reason actual production would be below production capacity, however, is if demand was

⁴⁹Coal DEIS, p. 1-6.
⁵⁰Fassett memo, p. 2.

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Table 2

1990 Production Capacity Estimates
(millions tons/year)

	BLM Staff ^a / San Fillipo ^b 1981 (San Fillipo)	BLM Staff ^a / Burford ^c 1981 (Burford)	BLM Staff ^a / Clark ^d 1982 (Clark)	BLM Staff ^a / Fassett ^e 1982 (Fassett)	BLM Staff ^a / Fassett ^e 1982 (Fassett)	DEIS ^f
PRLAs	14.0	21	16	16.9	16.9	10.4
Existing producing mines	15.0	20	25	20.2	16.9	
Existing leases on Navajo Reservation	0.0	0	0	16.0	0.8	
Other existing non-producing leases	23.9	0	0	15.7	18.5	37.4
Private Land	22.0	0	0	12.0		
Colorado Part of San Juan Basin	0	0	0	3.5	8.4	
Total	51.9	41	41	81.9	72.8	44.0
Total without PRLAs	37.9	20	25	65.0	38.2	37.4

a. Lusher to Burford, 1981, p. 6. Also attached to the minutes of the September 2, 1981 Regional Coal Team meeting.

b. Burford to Clark, 1981, p. 13.

c. Clark to Fassett, 1982, p. 13.

d. Clark to Fassett, 1982, p. 13.

e. Clark to Fassett, 1982, p. 13.

f. Clark to Fassett, 1982, p. 13.

g. Clark to Fassett, 1982, p. 13.

h. Clark to Fassett, 1982, p. 13.

i. Clark to Fassett, 1982, p. 13.

j. Clark to Fassett, 1982, p. 13.

k. Clark to Fassett, 1982, p. 13.

l. Clark to Fassett, 1982, p. 13.

m. Clark to Fassett, 1982, p. 13.

n. Clark to Fassett, 1982, p. 13.

o. Clark to Fassett, 1982, p. 13.

p. Clark to Fassett, 1982, p. 13.

q. Clark to Fassett, 1982, p. 13.

r. Clark to Fassett, 1982, p. 13.

s. Clark to Fassett, 1982, p. 13.

t. Clark to Fassett, 1982, p. 13.

u. Clark to Fassett, 1982, p. 13.

v. Clark to Fassett, 1982, p. 13.

w. Clark to Fassett, 1982, p. 13.

x. Clark to Fassett, 1982, p. 13.

y. Clark to Fassett, 1982, p. 13.

z. Clark to Fassett, 1982, p. 13.

aa. Clark to Fassett, 1982, p. 13.

ab. Clark to Fassett, 1982, p. 13.

ac. Clark to Fassett, 1982, p. 13.

ad. Clark to Fassett, 1982, p. 13.

ae. Clark to Fassett, 1982, p. 13.

af. Clark to Fassett, 1982, p. 13.

ag. Clark to Fassett, 1982, p. 13.

ah. Clark to Fassett, 1982, p. 13.

ai. Clark to Fassett, 1982, p. 13.

aj. Clark to Fassett, 1982, p. 13.

ak. Clark to Fassett, 1982, p. 13.

al. Clark to Fassett, 1982, p. 13.

am. Clark to Fassett, 1982, p. 13.

an. Clark to Fassett, 1982, p. 13.

ao. Clark to Fassett, 1982, p. 13.

ap. Clark to Fassett, 1982, p. 13.

aq. Clark to Fassett, 1982, p. 13.

ar. Clark to Fassett, 1982, p. 13.

as. Clark to Fassett, 1982, p. 13.

at. Clark to Fassett, 1982, p. 13.

au. Clark to Fassett, 1982, p. 13.

av. Clark to Fassett, 1982, p. 13.

aw. Clark to Fassett, 1982, p. 13.

ax. Clark to Fassett, 1982, p. 13.

ay. Clark to Fassett, 1982, p. 13.

az. Clark to Fassett, 1982, p. 13.

ba. Clark to Fassett, 1982, p. 13.

bb. Clark to Fassett, 1982, p. 13.

bc. Clark to Fassett, 1982, p. 13.

bd. Clark to Fassett, 1982, p. 13.

be. Clark to Fassett, 1982, p. 13.

bf. Clark to Fassett, 1982, p. 13.

bg. Clark to Fassett, 1982, p. 13.

bh. Clark to Fassett, 1982, p. 13.

bi. Clark to Fassett, 1982, p. 13.

bj. Clark to Fassett, 1982, p. 13.

bk. Clark to Fassett, 1982, p. 13.

bl. Clark to Fassett, 1982, p. 13.

bm. Clark to Fassett, 1982, p. 13.

bn. Clark to Fassett, 1982, p. 13.

bo. Clark to Fassett, 1982, p. 13.

bp. Clark to Fassett, 1982, p. 13.

bq. Clark to Fassett, 1982, p. 13.

br. Clark to Fassett, 1982, p. 13.

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lower than production capacity. In that case coal companies would obviously cut back until production was equal to demand. The additional capacity would still be available if demand grew enough to justify its use. Thus, production capacity is what the BLM should be considering in setting lease targets. Actual production will be determined by demand, not leasing, as long as overcapacity exists, and the BLM admits as much in discussing the effects of overleasing.⁵¹

The relevant figure in the DEIS⁵² is labelled "production." If taken literally, then this figure is clearly inaccurate, because it shows 70 million tons/year production in 1990 under the High Alternative. But 70 million tons/year far exceeds even the out-of-date high DOE demand forecast, and is simply impossible. Coal companies are not going to mine coal without a market. Any 1990 production from tracts leased under the High Alternative would result in a reduction of production at other lease tracts, PRLAs or other sources. Total 1990 production will be constrained by demand, not supply.

On the other hand, if BLM is trying to show production capacity on p. 1-6, as the differences between the leasing alternatives imply, then its members are far below all the other

⁵¹Coal DEIS, p. 1-2.

⁵²Figure 1-1, p. 1-6.

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Table 3
1995 Production Estimates

(millions tons/year)

	BLM Staff ^a / (1990 data--shown for comparison)	MMSP ^b / (1990 data--shown for comparison)	Companies ^c / (1990 data--shown for comparison)	DEIS ^d / (1990 data--shown for comparison)
PRLAs	29.0	16.5 ^e	36.6	20.5
Existing Producing Mines	15.8	20.2	16.8	
Existing Leases on Navajo Reservation	16.4	14.0	6.4	
Other Existing Leases	26.7	15.7	24.1	-29
Private Land		12.0		
Colorado Part of San Juan Region	7.6	3.5	N/A	
Total	95.5	81.9	83.9	-49
Total Without PRLAs	66.5	65.4	47.3	-29

- a. Lusher to Burford, 1981, p. 6. Also attached to minutes, Regional Coal Team meeting, September 2, 1982.
b. Clark memo; Fassett memo.
c. From Table A, Section II.D of this analysis.
d. Coal DEIS, p. 1-6.
e. Omits 4 million tons per year potential production at Ah-shi-Sie-Pah WSA per Fassett memo.

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forecasts shown in Tables 2 and 3. The BLM cannot have it both ways; the need for new leases (if any) should be based on the inability of baseline production to meet demand, not the fact that baseline production is already constrained far below baseline capacity by lack of markets. The existence of currently existing but non-producing leases capable of producing 21.9 to 29.7 million tons/year in 1990 (Table 2) shows that, barring phenomenal demand growth, overcapacity exists already and new leasing is not required.

Even with DOE's production goals, existing (baseline production) overcapacity means leasing is not justified. A current value of B would be the lesser of production capacity or actual demands. If demand exceeds capacity, companies will produce at their full capacity. If demand is less than capacity, production will, of course, be cut back (as it is today in the New Mexico coal mining industry), but in that case unused capacity exists, $G - B$ (demand less baseline supply) in Equation (3) is less than zero, and hence no leasing is required.

Table 3 shows that in 1995 production capacity far exceeds DOE's high production goal in all forecasts except the DEIS's. So in each case baseline production, B, is greater than demand, G, and no leasing is required. In 1990, one forecast shows production below DOE's high demand (the September 1981 San Fillipo

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forecast,⁵³) and in this case equation 6 would hold:

$$\begin{aligned} L &= C(G-B)(F)(Y)/(R) \\ &= (2)(58.8 - 57.4)(.63)(26)/(.57) \quad (6) \\ &= 80 \text{ million tons} \end{aligned}$$

Even the minimal amount of leasing implied by Equation (6), 80 million tons (compared to 1,320 million tons in the target alternative), is too high. The SanFilipo estimate excludes 2 million tons/year in 1990 from the Arch Unit II PRLA which underlies the Ah-Shi-Sle-Pah WSA. But the BLM intends to lease Ah-Shi-Sle-Pah and expects the overlying PRLAs to be in production by 1990.⁵⁴ So it should add Arch Unit II to SanFilipo's production estimate. Doing so makes B greater than G and reduces the lease target to zero. Additionally, SanFilipo explicitly excluded various mines proposed to serve synfuels complexes. But the high DOE goals include 10.6 million tons/year of demand for synfuels.⁵⁵ Resolving this inconsistency requires either using the low DOE goals rather than the high ones, or else including the specific mines SanFilipo excluded. In either case, the result is B greater than G, and thus no basis for leasing.

So far we have shown that correcting either the supply (B) or demand (G) figures used by BLM implies new leasing is

⁵³John SanFilipo, attachment to Regional Coal Team minutes, meeting of September 2, 1981.
⁵⁴Coal DEIS, p. 1-5.
⁵⁵DOE Goals, p. 66.

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unnecessary. If we correct both, then we find 1990 demand (G) of 26.2 to 33.3 million tons (per Table 1) and 1990 production capacity (B) of 37.6 to 65.4 million tons even without PRLAs (per Table 2). Thus B is greater than G, and neither PRLA nor new competitive coal leases are needed.

To sum up, for 1990 the BLM has assumed demand for coal between 54 million tons/year⁵⁶ and 72 million tons/year.⁵⁷ Actual demand will be 26 to 33 million tons/year in 1990 (Table 1). The BLM has shown baseline production of about 48 million tons/year in 1990.⁵⁸ Actual production will be constrained by demand to only 26 to 33 million tons/year in 1990, but various mine-by-mine studies show that BLM's 48 million tons/year number substantially underestimates production capacity. 1990 demand can be accommodated up to three times over without any new lease sale.

For 1995, demand is much more uncertain and may reach 44 million tons/year (Table 1), over double today's level. The BLM shows baseline production near 49 million tons/year in 1995,⁵⁹ and others show 1995 production capacity of 86 to 96 million tons/year (Table 2). Thus 1995 production capacity under the No Action alternative is twice the likely maximum demand, and far above

⁵⁶Id., low goal.
⁵⁷Coal DEIS, p. 1-6, High Alternative.
⁵⁸Id., all alternatives.
⁵⁹Id., all alternatives.

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even the DOE goals. Once again, a new lease sale makes no sense.

Beyond 1995, leasing in 1983-1984 is premature. Leases have a 10-year requirement for entering production, so leasing to meet year 2000 needs can be deferred until the next San Juan River Region sale. The DOE does not even have production goals for the year 2000.

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2. The Star Lake-Bisti Railroad

The analysis in section 1 above assumes that the proposed Star Lake-Bisti railroad operates by 1987. The DEIS makes the same assumption for all five alternatives.¹ Since the Star Lake-Bisti railroad would take two years to construct as far as Star Lake, and two and one half years to reach Bisti,² 1987 operation requires a late 1984 construction start. Construction of the Star Lake-Bisti Railroad has recently been delayed by the District of Columbia Circuit Court of Appeals, which in a March 1, 1983 decision remanded back to the Interstate Commerce Commission (ICC) the Star Lake-Bisti railroad construction and operation permit for reconsideration of two issues.³ It is possible that ICC reconsideration will result in delaying the Star Lake-Bisti railroad beyond Gallo Wash, which is more than 30 miles short of Bisti.

If all or part of the Star Lake-Bisti railroad is cancelled or delayed beyond 1987, what difference does it make? On the demand side, none at all. No utility will defer a planned coal plant because of the absence of the Star Lake-Bisti railroad, as evidenced by Tucson Electric Power (TEP), which has gone forward with construction of its Springerville coal units despite their

¹Coal DEIS, pp. 3-2, 3-4.
²StarLake-Bisti FES, volume 2, p. SLR I-10.
³Railroad Remand.

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contractual reliance upon Lee Ranch coal. On the supply side, it is true that several existing leases (Lee Ranch, Star Lake, and South Hospah) are heavily dependent on the Star Lake-Bisti Railroad as are most of the PRLAs. Stopping the railroad will thus lower production capacity from the levels it would have reached. But the same problem affects all the proposed lease tracts along the railroad route. 12 of the 24 tracts in the Target Alternative⁴ were chosen because, among other factors, they would be within 5 miles of the Star Lake railroad.⁵ The biggest single tract, Nageezi, lies less than 10 miles north of the proposed railroad and would use the railroad. These 13 tracts together contain over a billion tons of Federal coal, some 76 percent of the entire proposed sale. If the Star Lake-Bisti railroad really won't be built, then the DEIS is fatally flawed in its assumptions on need, tract development, impacts of production, production levels, etc. The mere ~~threat~~ that the Star Lake-Bisti railroad will not be built is bound to depress bids if the lease sale is held in 1983-84 as planned. The DEIS contains no analysis of the consequences if the Star Lake-Bisti railroad was not built. The less likely is completion of the railroad then the less reason there is to lease any of the 13

⁴Star Lake East #1, Star Lake West #2, Kimbeto #1, Kimbeto #2, Gallo Wash #1, Bisti #1, Bisti #2, Bisti #4, Bisti #6/8, Divide, Hospah #1, Hospah #2.

⁵Coal DEIS, pp. A-51 to A-55.

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tracts near the proposed railroad route. The DEIS cannot simultaneously claim uncertainty about the railroad as an excuse for low baseline production estimates, and then assume the railroad exists when evaluating the proposed lease tracts.

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3. Employment and Revenues

The DEIS contains lengthy analyses of the miners to be employed and the taxes to be paid if the lease sale goes forward.¹ All of the numbers in the DEIS are wrong, for a simple reason: the DEIS fails to acknowledge coal demand as an issue. The DEIS assumes that if a tract is leased it will enter production.² The DEIS makes no allowance for competition, despite the (correct) initial statement that "ultimately, the economic market and demand for coal will determine which tracts will be developed."³ By ignoring demand, the DEIS makes it seem that the more coal leased, the more jobs and the more royalties. But as the uranium miners of Grants, the coal miners of Ratón, the copper miners of Silver City, and the potash miners of Carlsbad can all testify, having a mine (let alone just a lease) is not the same as having a job. New Mexico already has enough coal under lease to meet demand through 1995 (see sections 1 and 2 above). Leasing more coal will only switch around which coal gets developed first, but not how much. Leasing more coal now may mean jobs for miners near Nageezi at the expense of miners near Ratón. After all, the Ratón mines currently send coal to Salt River Project (SRP), but SRP has indicated a strong interest

¹Coal DEIS, pp. 3-18 to 3-25, 3-73, 3-74, A-1 to A-45.

²Id., pp. A-1 to A-45.

³Id., p. 1-3.

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in leasing the Nageezi tract.

Issuing leases will not provide any net new royalties either, since total production depends on demand, not supply. Indeed, if companies start production on newly leased Federal lands who would otherwise have developed existing state leases, then state royalties will shrink. The same holds true for Tribal leases, which may remain underdeveloped if new Federal leases are developed.

Two new mines which opened in the last two years document the point made above. Both the Gateway and De-Na-Zin mines supply coal to the San Juan power plant. But both are used to displace coal which would otherwise come from the San Juan Mine. The total coal used at the powerplant depends solely on the use of the generators there--if the Gateway mine had never opened the powerplant would still use the same amount of coal. Thus Gateway and De-Na-Zin mines have not really created any new jobs. They have just moved jobs which would have existed anyway, at the San Juan mine, to a new location.⁴

The EIS should admit that any mining on newly leased tracts will only come at the expense of mining that would otherwise have occurred elsewhere. It should discuss the job and tax losses

⁴To the extent that the new mines are more efficient than the old mine, opening the new mines may actually have reduced employment.

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caused by shifting production to new leases from existing ones. It should compare the socioeconomic impacts of expanding production at existing mines or leases⁵ versus issuing brand new leases for tracts largely lacking transportation or any other infrastructure. This DEIS does none of these things, and thus is inadequate.

⁵Table A in Section II.D of this analysis lists existing mines

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4. Due Diligence

Current federal regulations require a lease or logical mining unit (LMU) to produce 1 percent of its recoverable reserves within 10 years of lease issuance,¹ and complete recovery within 40 years thereafter.² The DEIS states that all tracts but 3 are expected to meet the 10 year requirement,³ and cites the 40 year requirements as well.⁴ The 3 tracts projected to begin development in 2010-2020⁵ are explained to be part of an LMU; presumably some other part of the LMU will begin development by 1993.

But the backup documentation for the DEIS shows that the scale of proposed overleasing is so large that even the BLM does not expect the law to be complied with. Mine life is expected to exceed the statutory limit of 40 years for the Nageezi,⁶ Lee Ranch East,⁷ Lee Ranch Middle,⁸ Divide,⁹ Johnson Trading Post,¹⁰ Bisti #1,¹¹ Crownpoint NE,¹² Chico Wash South,¹³ and

¹30 CFR 211.20(a)(1) (47 CFR 33187, July 30, 1982).

²Coal DEIS, p.1-2.

³Id., p. 3-3.

⁴Id., p. 1-12.

⁵Hospah #1, Hospah #2, Gallo Wash #2; Coal DEIS, p. 3-3.

⁶Id., p. A-7.

⁷Id., p. A-13.

⁸Id., p. A-14.

⁹Id., p. A-17.

¹⁰Id., p. A-23.

¹¹Id., p. A-26.

¹²Id., p. A-34.

¹³Id., p. A-36.

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Breadsprings #2 tracts.¹⁴ The first 6 of these 9 tracts are in the Target Alternative, and contain over .75 billion tons of Federal coal, 57 percent of the entire Target Alternative.¹⁵

Except for the three tracts in 2010-2020,¹⁶ the DEIS does not list expected start-up dates for the other 36 tracts. But the various analyses of employment and production¹⁷ obviously required such data. EDF requested this documentation from Gene Day of the BLM's New Mexico State Office, and ultimately obtained the tract-by-tract, year-by-year assumptions which went into the DEIS.¹⁸ The BLM has assumed, contrary to the written assertion in the DEIS,¹⁹ that 10 of the 39 tracts would not begin production until 1994 or later.²⁰ Four more tracts are expected to be less than 1 percent produced (and thus in violation of the due diligence requirement) by the end of 1993.²¹ Altogether, of the 24 tracts in the Target Alternative, the BLM has prepared the DEIS with the assumption that 10 of them will be less than 1 percent through production by

¹⁴Id., p. A-43.

¹⁵Id., p. 2-9.

¹⁶Hospah #1, Hospah #2, Gallo Wash #2; Coal DEIS, p. 3-3.

¹⁷E.g., Coal DEIS, Figure 1-1, p. 1-6.

¹⁸Hamilton.

¹⁹Coal DEIS, p. 3-3.

²⁰Lee Ranch East and Divide (1994); La Plata #4 and Gallo Wash #1 (1995); Star Lake West #2, Kimbeto #2, and Breadsprings #2 (2000); Hospah #1 (2010); Gallo Wash #2 (2015); Hospah #2 (2020); See Hamilton.

²¹Star Lake East, Kimbeto #1, Tah-Ha-Bah Well, and Samson #1; see Hamilton.

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the end of 1993.

The effect of assuming law-breaking, both for mine startup and for mine duration, is to understate production. If BLM showed all tracts starting production by 1993 and ending in 40 years or less, the incredibly high production figures in the DEIS²² would be higher yet. The figures the DEIS relies upon show maximum production from new leases in 2013 (in the Target Alternative),²³ but the DEIS itself shows no production figures past the year 2000.²⁴ If the DEIS assumed that tracts were developed in law-abiding fashion, then the overleasing would be more obvious.

²²Coal DEIS, p. 1-6.

²³Hamilton.

²⁴Coal DEIS, p. 1-6.

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5. Economic Recovery

Companies producing coal from federal leases are expected to obtain the "maximum economic recovery."¹ The DEIS claims that its analyses are based on recovery rates of 50 percent for underground mines and 85 percent for surface mines.² These claims are demonstrably false. The DEIS lists tract-by-tract reserve and recovery figures.³ These show that for the Target Alternative, for example, recovery of Federal coal is projected to be only 21 percent for underground coal.⁴ For total coal race available in the target alternative, recovery is less than 23 percent for underground coal.⁵ Moreover, the year-by-year data used in the socioeconomic impact analyses uses lower yet production.⁶ Underground recovery reaches 25 percent of total coal in the Target Alternative, but surface-mined coal recovery only occurs at the 74 percent rate. Total recovery is 1156 million tons⁷ out of 2100 million tons leased,⁸ or 55 percent.

Once again, the BLM is either acquiescing in overleasing and resultant partial abandonment of leases, or else it is grossly

¹30 CFR 211.40(b)(1) (47 FR 33165, July 30, 1982)

²Coal DEIS, p. 3-3.

³Id., pp. 2-8 to 2-10.

⁴Id., p. 2-9.

⁵Id.

⁶Hamilton.

⁷Id.

⁸Coal DEIS, p. 2-9.

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understating the production overcapacity which will result for the target alternative. If the BLM's stated recovery rates of 50 percent underground and 85 percent on the surface⁹ are used, then the recoverable coal under the Target Alternative is actually 1473 million tons, some 272 million tons (23 percent) more than the DEIS says,¹⁰ and 317 million tons (27 percent) more than the values actually used by the BLM.¹¹

For the PRLAs, the situation is even worse. The BLM proposes to lease 2.2 billion tons of PRLA coal.¹² Elsewhere, the BLM has estimated that there are 2.3 billion tons of PRLA Coal.¹³ It claims that that 5 of the 7 PRLA mines will be surface mines,¹⁴ and that 1.15 billion tons of PRLA coal will be mined.¹⁵ Already, implicit PRLA recovery is down to 50 to 52 percent (1.15 billion tons out of 2.2 to 2.3 billion tons), but there is worse to come. In setting leasing targets, the BLM told DOI it counted on only 40 percent of the PRLAs entering production by 1990.¹⁶ The mine-by-mine PRLA data underlying the DEIS show all of the

⁹Id., p. 3-3.

¹⁰Id., p. 2-9.

¹¹Hamilton.

¹²Coal DEIS, p. viii.

¹³900 million tons stripable, 1.4 billion tons underground, per Matt Millenbach, Associate District Manager, Albuquerque District, BLM, reported in minutes of Regional Coal Team meeting, Albuquerque, New Mexico, September 2, 1981, p.2.

¹⁴Id., p. 1-5.

¹⁵Id., p. 1-24.

¹⁶Burford to Carruthers memo.

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PRLAs entering production¹⁷, yet total production of only 682 million tons.¹⁸ The BLM is thus contending only 30 to 31 percent of the PRLA coal will be produced (682 million tons out of 2200 to 2300 million tons). The mining companies themselves claim 1404 million tons (61 to 64 percent) can be recovered.¹⁹ Even the BLM's own figure of 1150 million tons for the PRLAs would imply production rates 69 percent higher than those shown in the DEIS. If the BLM intends to justify a new lease sale based in part on only 31 percent PRLA recovery, it should change its Wilderness EIS to recommend Wilderness status for the Ah-Shi-Sle-Pah WSA, and admit that making Ah-Shi-Sle-Pah a Wilderness will not reduce PRLA production below the 682 million ton level

¹⁷Hamilton; also Coal DEIS, p. 1-5.

¹⁸Hamilton.

¹⁹PRLA FEA, p. 156.

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6. Fair Market Value

The Federal Coal Leasing Act Amendments of 1976 (FCLAA) require that no lease be sold for less than fair market value.¹ The phrase "fair market value" is subject to considerable DOI interpretation, and bids as low as 5 cents per ton were accepted at last year's Powder River lease sale.² For the San Juan Basin, everything the BLM is doing works to minimize the value of bids which can be expected. Whether "fair" or not, proceeding with the proposed lease sale will result in extremely low bids.

a. Leasing into a national glut

The U.S. coal industry as a whole currently has capacity well above demand. Production in 1982 barely equalled the level in 1981, during which there was a major strike.³ Production in 1982 was less than 1980 production.⁴ Production in 1983 is expected to be up only 2 percent over 1982, even with economic recovery starting in the fourth quarter of 1982.⁵ Thus, any San Juan River Region Coal lease in 1983-1984 will take place as the coal industry ends a four-year (1980-1983) period of basically flat

¹Coal DEIS, p. 1-12.

²Coal Week, November 1, 1982.

³MEW, February 1983, p. 62.

⁴Id.

⁵Energy Information Administration, *Short-term Energy Outlook*, November 1982, pp. 15, 28.

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production. Companies will be disinclined to pay high prices for new reserves when they can't produce what they already have.

b. Leasing into a local glut

New Mexico is in the same situation as the rest of the country. New Mexico production in 1982 is estimated at 16.7 million tons,⁶ down from 18.8 million tons in 1981,⁷ and 19.5 million tons in 1980.⁸ The Mentmore mine near Gallup shut down for lack of a market in March 1983.⁹ New Mexico production is expected to remain stable through 1983.¹⁰ So New Mexico, like the rest of the country, will have been in a four-year period of flat production just as DOI proposes to sell new leases. Yet this same period of flat demand has seen increasing capacity. New mines have been opened at De-Na-Zin and Gateway, and new mines have been approved at Carbon #2,¹¹ Lee Panch,¹² and La Ventana.¹³ Coal companies already hold more coal than they can sell and, as elsewhere in the country, will be disinclined to bid for new reserves.

⁶Albuquerque Journal, March 13, 1983, p. F-2.

⁷EMD Annual Report, p. 39.

⁸Albuquerque Journal, March 13, 1983, p. F-2; EMD Annual Report, p. 39.

⁹Gallup Independent, March 16, 1983, p. 1.

¹⁰EMD Annual Report, p. 43.

¹¹Coal Week, December 13, 1982, p. 5.

¹²New Mexico permit #19-1P, approved October 1, 1981.

¹³New Mexico permit #21-3P, approved October 20, 1982.

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c. Creating a glut prior to the lease sale

As if existing unused leases weren't sufficient evidence of a glut, BLM proposes to issue 2.2 billion tons of PPLAs, in *every* Alternative, prior to holding a lease sale.¹⁴ Companies obtaining PPLAs will pay no bonus whatsoever. The resultant 36 million tons per year of new production capacity,¹⁵ most of it stripminable¹⁶ will depress the New Mexico coal lease market for years to come, reducing lease sale prices at the proposed sale and any other lease sale (state, Federal, or Indian). Evidence of the depressed market for New Mexico coal reserves already exists even in advance of PPLA issuance; in the fall of 1982 the state of New Mexico offered 176 tracts for leasing and received bids on only 25. Only three tracts received more than one bid, ~~none~~ received more than 2 bids, and total bonuses were less than \$130,000.¹⁷ Salt River Project, which has repeatedly expressed interest in the Nageezi tract, leased 3500 acres 30 miles east of its Coronado power plant for only \$12 per acre,¹⁸ far below the minimum bid of \$160/acre for new federal leases.¹⁹

¹⁴Coal DEIS, p. viii.

¹⁵PPLA FEA, p. 145.

¹⁶*Id.*, p. 156.

¹⁷*Id.*, October 25, 1982.

¹⁸*Id.*, November 22, 1982.

¹⁹43 CFR 4322.1 (47 FR 33140, July 30, 1982)

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d. Offering tracts tailored to specific bidders

In the Powder River lease sale, the greatest evidence of overleasing and resulting noncompetitive bidding was that most of the tracts received only a single bid. The proposed San Juan River Coal Region sale offers numerous indications that noncompetitive bidding will occur again:

i. Non-overlapping expressions of interest

When DOI called for coal companies to state which tracts they might be interested in bidding for, there were 10 responses for a total of 2,563 billion tons, of which only 120 million tons (less than 5 percent) was overlapping. This suggests a tacit market-sharing by prospective bidders has already occurred, which will allow successful low bids for virtually every tract leased if DOI proceeds with the target alternatives.

ii. By-pass tracts will have limited bidding

Eight of the 24 tracts in the Target Alternative are so-called "by-pass" tracts,²⁰ which are expected to be mined in conjunction with specific existing leases or PPLAs.²¹ As a result only the holders of the existing leases or PPLAs can be expected to bid for these eight tracts, since any other bidder would lack an economical means of development. Indeed, four of the eight tracts are not expected to enter production until 1995 (Gallo

²⁰Coal DEIS, p.1-7.

²¹*Id.*, p.1-6.

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Wash #1), 2000 (Star Lake West #2, Kimbeto #2) or later (Hospah #1),²² after the 10-year due diligence deadline. These tracts would have to be combined with existing tracts as "logical mining units" (LMU) to meet the due diligence requirement, making them especially likely to have only a single bidder.

iii. Nageezi tract is earmarked for the Salt River Project (SRP)

Since 1976, SRP has repeatedly stated its interest in leasing the Nageezi tract.²³ The Nageezi tract has been recommended for "public body" leasing.²⁴ "Public body" leasing means only organizations which are public in nature could bid for the tract.²⁵ SRP is an agricultural improvement district which generates electricity as well, and owns coal-fired powerplants. But the Nageezi tract, with 466 million tons, is three times the size of any other tract and contains over one-third of all the Federal coal in the Target Alternative.²⁶ Because of its size, only a very large "public body" could bid on the Nageezi tract; a smaller one would have no way to use it all.

The Nageezi tract has from 109 million tons²⁷ to 134 million

²²Hamilton.

²³SRP, p.1.

²⁴Coal DEIS, p. A-48.

²⁵[Legal cite]

²⁶Coal DEIS, p.2-9.

²⁷*Id.*

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tons²⁸ to 293 million tons²⁹ of recoverable coal. For a 40-year mine life, this corresponds to an average production of 2.7 to 7.3 million tons per year. This in turn corresponds to approximately 800 to 2100 Mw of coal-fired electrical capacity.³⁰ The only coal-fired powerplants of this size in the Arizona-New Mexico area are Navajo, Cholla, Coronado, Springerville, and Mohave (the latter is in Nevada, but is immediately across the Colorado River from Arizona). None of these are operated by public bodies except Coronado and Navajo. Navajo is supplied directly by train from Black Mesa, and Coronado belongs to SPP. Thus SRP is the only prospective bidder for the Hageezi tract, and will presumably bid at the lowest allowable level.

iv. The Lee Ranch tracts have no plausible bidders

The three Lee Ranch tracts plus the Divide tract contain over 200 million tons of strippable Federal coal, over 16 percent of the entire Target Alternative lease sale.³¹ But the Lee Ranch area consists of mixed Federal and private land, with the Santa Fe railroad controlling much of the private land as a result of nineteenth century land grants. A Santa Fe railroad subsidiary

²⁸Hamilton.

²⁹At 50 percent recovery (per Coal DEIS, p. 3-3) of 567 million tons of total reserves (per Coal DEIS, p. 2-9).

³⁰Based on 8500 BTU per pound of coal, 10,000 BTU/kwh of electricity, 67 percent average coal plant capacity factor.

³¹Coal DEIS, p.2-9.

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already has a mine under development at Lee Ranch.³² In addition, a Santa Fe railroad subsidiary has proposed to swap 142 million tons of coal reserves with the Federal government to consolidate existing checkerboard areas.³³ Any prospective bidder for the Lee Ranch tracts thus faces two problems: on the one hand, the land swap may go forward, in which case the lease tracts will no longer exist as presently constituted. BLM has already raised the possibility of withdrawing all three Lee Ranch Tracts, plus the Divide tract, because of the proposed exchange with Santa Fe.³⁴ On the other hand, a successful bidder will find itself intermingled with Santa Fe coal lands, and will have to negotiate development arrangements with a company which both controls the transportation and is a competing coal producer with an existing mine investment to protect. Under such circumstances, the Lee Ranch tracts are not particularly valuable to anyone except Santa Fe itself. But Santa Fe, as a railroad, is expressly forbidden from holding Federal coal leases,³⁵ and DOI has recently agreed that the ban extends to railroad subsidiaries as well.³⁶ So the only prospective bidders for Lee Ranch tracts will be companies who think they can negotiate a deal with Santa Fe, starting from

³²Coal Week, December 6, 1982, p.3.

³³Id.

³⁴Umshler, February, 14, 1983, p.2.

³⁵30 U.S.C. Section 202 (1920 Mineral Leasing Act, Section 2(C)).

³⁶Coal Week, December 13, 1982, p. 4, citing DOI Solicitor William Colclison.

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a very poor negotiating position. The Lee Ranch tracts are thus likely, like so many other tracts, to receive very low bids.

e. Leasing without data

Early in the lease process, BLM (then the Minerals Management Service) stated that it did not have adequate data to delineate tracts containing more than a total of 1 billion tons of coal.³⁷ Ultimately, almost 2 billion tons of Federal coal were included in the 35 tracts discussed in the DEIS.³⁸ However, for numerous tracts drilling and exploration activity has continued, and new data have resulted in downward revisions of estimated recoverable coal. The BLM estimates that recoverable coal estimates will have to be changed at the four La Plata tracts, the Johnson Trading Post tract, the Bisti #1 and #4 tracts, the Lee Ranch Middle and West tracts, the Divide tract, both Crownpoint tracts, the Twin Buttes tract, and both Samson Lake tracts.³⁹ Data already available show that reserves in the Target Alternative have been overstated by 85 million tons (6 percent), and in the High Alternative by 360 million tons (19 percent).⁴⁰ Some tracts near Gallup have not had any drilling done at all (e.g. Pinehaven).

³⁷Luscher to Burford, 1981, p. 14.

³⁸Coal DEIS, p. 2-10.

³⁹Umshler memo.

⁴⁰Id.

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From a bidding point of view, the less known about a tract, the riskier it is, and thus the less a company will be willing to bid. Leasing poorly-known tracts guarantees low bids.

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C. Detailed Comments on the San Juan River Regional Coal Draft Environmental Impact Statement

The analysis in section B, above, has described the basic flaws of the DEIS: failure to accurately consider supply and demand and consequent misjudgment of need and impacts. In addition, the DEIS suffers from contradictory analysis and simple typographic errors which contribute to its general inadequacy for decisionmaking. This final section details some of those errors and omissions.

1. p. ix. "Some mining would occur near Wiloerness Study Areas . . ." in the No Action Alternative.

In fact the No Action Alternative envisions mining within the Ah-Shi-Sle-Pah WSA, since all 26 PRLA's are projected to enter production,¹ and Ah-Shi-Sle-Pah is completely underlain by PRLAs.

2. p. ix. "Leasing . . . would not increase annual production" in the Bypass Alternative.

This statement contradicts Figure 1-1 for all years shown, from 1987-2000.

3. p. 1-4. "In-place reserves for leased Federal coal are approximately 2.2 billion tons . . ."

This contradicts p. viii, which shows 2.2 billion tons just for PRLAs. It ~~omits~~ non-Federal coal, which also contributes to production in the No Action Alternative.

4. p. 1-4. "... with 1.75 billion tons [of leased Federal coal] being recoverable."

This number is undocumented, despite repeated queries to the BLM. If it refers to PRLAs only, they are not yet leased. If it excludes PRLAs, it contradicts the figures on p. 1-24. In any

¹Coal DEIS, p. 1-5.

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case it omits non-Federal coal.

5. p. 1-4. "Projected coal production in 1987 and the year 2000 would be approximately, 41 and 47 million tons, respectively . . ."

The non-PRLA portion of this sentence is undocumented. When EDF requested documentation, the only thing supplied was a 1982 Luscher to Burford memo which argues for 1990 production of 46 million tons.² This memo provides no breakdown by categories, and says nothing about 1987 or 2000. BLM indicated no other documentation existed.³

6. p. 1-4. PRLA production will be "1.6 million tons . . . in 1987 and 20.5 million tons . . . in the year 2000."

This statement contradicts the Final Environmental Assessment for the PRLAs⁴ and the PRLA holders themselves,⁵ both of which give over 36 million tons/year for PRLA production. A single PRLA tract is projected by its would-be lessor to produce more than 1.6 million tons in 1987.⁶

7. p. 1-4. PRLA "surface mining would disturb . . . 10,000 acres in the year 2000."

This contradicts the PRLA Final Environmental Assessment, which says 22,000 acres.⁷

8. p. 1-4. "Approximately 705 acres would be disturbed on PRLA mining units by onsite surface facilities . . ."

This omits offsite impacts from roads, railroads, transmission lines, and water conveyance right-of-ways.

²Luscher to Burford, 1982.

³Day, personal communication, February 9, 1983.

⁴PRLA FEA, p. 145.

⁵Id. p. 156.

⁶Preference Right Lease Application NM585; see PRLA FEA, p. 156 for quantity and Coal DEIS, p. 1-5 for date.

⁷PRLA FEA, p. 145.

11-47

9. p. 1-4. "coal production [from bypass tracts] would be . . . 3.75 million tons from 4 tracts for the year 2000 (peak production)."

It is clearly false that peak production would occur in 2000, or be 3.75 million tons, since the Hospah #1 tract is a bypass tract,⁸ will not start production until 2010,⁹ and has an expected production rate of 10.3 million tons all by itself.¹⁰ BLM actually expects peak production from Bypass tracts to be 12.8 million tons in 2013.¹¹

10. p. 1-5. All PRLAs are shown in Table 1-1 to have a 35 year life.

This contradicts the Final Environmental Assessment for PRLAs.¹²

11. p. 1-6. "Production from other sources under the No Action Alternative" shrinks with time in all cases.

These data, for the years 1987, 1990, 1995 and 2000, are all unsubstantiated (see comment 5). They contradict company mine plans, all of which show production expanding over time (see Table A, in section D of these comments).

12. p. 1-6. The higher leasing alternatives are shown to result in successively higher production.

This figure contradicts the laws of supply and demand in a competitive market. Increasing leasing will not increase demand and demand sets production (see analyses above). Increasing leasing will only rearrange supply, with more coming from new tracts and less from PRLAs and other sources.

13. p. 1-6. "Production from other sources" is one of three categories shown.

⁸Coal DEIS, p. 1-7.

⁹Id., p. 1-9.

¹⁰Id., p. A-18.

¹¹Hamilton

¹²PRLA FEA, p. 156.

11-48

This category apparently refers only to Federal coal,¹³ omitting state, Indian, and private coal.

14. p. 1-7. "Lee Ranch Middle Lee Ranch West."

This is a typographical error.

15. p. 1-7. "Hospah #2 Gamarco #1."

This is a typographical error.

16. p. 1-7. "(HC) Bista #4."

This is a typographical error.

17. p. 1-7. "Sundance Samson Lake"

This is a typographical error.

18. p. 1-7. "#2/2."

This is a typographical error.

19. p. 1-9. Table 1-4 shows disturbance of 705 acres for surface facilities under the No Action Alternative.

This figure contradicts p. 1-4, which says 705 acres will be disturbed at the PRLAs only. Thus Table 1-4 omits disturbance at all other existing leases, both Federal and non-Federal, which would be developed under the No Action alternative. It also contradicts p. 1-24, which shows over 9000 surface acres disturbed at non-PRLA projects in the No Action Alternative.

20. p. 1-9. Table 1-4 shows lower impacts for the Bypass Alternative than for the No Action Alternative.

¹³Coal DEIS, p. 1-9.

11-49

This is impossible, since the Bypass Alternative includes the No Action Alternative. Also under the Bypass Alternative numerous existing leases and PRLAs will be developed,¹⁴ but their impacts do not appear to be counted anywhere.

21. p. 1-9. "Projected coal production [in the Minimum Conflict Alternative] would be . . . 13.4 million tons for the year 2000 (peak production) . . ."

This is false. Backup documentation shows production above year 2000 levels in the early 2020s after Hespah #2 and Gallo Wash #2 tracts both reach full production.¹⁵ The BLM expects maximum production in the Minimum Conflict Alternative to be 22.5 million tons in the year 2025.¹⁶

22. p. 1-10. "Federal . . . reserves that would be leased are approximately 1.32 billion tons [in the Target Case], with approximately .7 billion tons being recoverable."

This contradicts p. 3-3, which shows recovery rates of 50% for underground and 85% for surface mines.

23. p. 1-10. ". . . coal production [in the Target Alternative] would be . . . 0.025 billion tons [25 million tons] in the year 2000 (peak production) . . ."

This is false. Peak production exceeds 30 million tons/year in the Target Alternative. It is above 25 million tons for 30 consecutive years, and the highest single year is 2013.¹⁷

24. p. 1-10. ". . . average annual coal production would be approximately .13 billion tons from 1985 through the year 2007 . . ."

This implies 1985-2007 production of 2.99 billion tons, and is clearly false.

¹⁴See *id.*, p. 1-8.

¹⁵Hamilton.

¹⁶*Id.*

¹⁷*Id.*

11-50

tons.

This contradicts the Final Environmental Assessment for the PRLAs, which shows recovery of 1.404 billion tons.²⁰ It contradicts the implied recovery per pp. viii (2.2 billion tons of total PRLA coal), 1-5 (5 out of 7 tracts surface mined), and 3-3 (85% recovery of surface mined coal). It also contradicts the data underlying Figure 1-1, which show total PRLA recovery of only 682 million tons.²¹

31. p. 1-24. PRLA production is shown as 1.6 million tons in 1987 and 20.5 million tons in 2000.

These numbers are consistent with Figure 1-1 and the year-by-year, mine-by-mine data underlying it. But they contradict the total recoverability figure of 1.15 billion tons on the same page (see comment 30).

32. p. 1-24. "Other Projects" total production is shown as 60 million tons.

First, this is a typographical error for 600 million tons.²² Even at 600 million tons this figure makes no sense. No time period is quantified. Should the time period start in 1987 (when the PRLAs begin production) or 1983 (since "other projects" are already producing)? Should the time period end in 2000 (as in Figure 1-1) or in 2025 (when PRLA production ends²³)? Figure 1-1 shows "other production" at approximately 39 million tons in 1987, 37 million tons in 1990, 28 million tons in 1995, and 26.5 million tons in 2000.²⁴ These figures imply "other production" of approximately 450 million tons just in the 1987-2000 period. But Figure A shows "other production", including Colorado, at over 500 million tons just in 1983-1996. Without a start and finish, "600 million tons" makes no sense.

33. p. 2-7. ". . . the village of Bisti.

²⁰PRLA FEA, p. 156.

²¹Hamilton.

²²Zuschlag.

²³See Coal DEIS, p.1-5.

²⁴See *Id.*, p. 1-4.

11-52

25. p. 1-11. In the High Alternative, "production would be approximately .009 billion tons in 1987 (start-up) . . . and .062 billion tons in the year 2000 (peak production) . . . (refer to Figure 1-1)."

The data underlying Figure 1-1 contradict this sentence. Production begins in 1985, not 1987, and peaks in 2004, not 2000. It is .008 billion tons in 1987, not .009, and it is .044 billion tons in 2000, not .062.¹⁸

26. p. 1-11. In the High Alternative "average annual coal production would be approximately .24 billion tons from 1985 through the year 2007 . . ."

This statement implies 1985-2007 production of 5.52 billion tons and is clearly false.

27. p. 1-17. Footnote "a" shows all tracts beginning mining in 1987. This contradicts the assumptions of tract-specific start dates which underlie Figure 1-1.¹⁹

28. p. 1-23. "Other projects that are part of the No Action Alternative" are defined to be "existing and proposed mines under contract commitments or mine plans . . ."

This definition contradicts Figure 1-1, since that figure does not reflect operation of all, or even most, "existing and proposed mines." Compare Figure 1-1 in the DEIS to Table A of this analysis to see the difference. All New Mexico mines in Table A have mine plans.

29. p. 1-23. "For the other [non-PRLA] projects, impacts between the years 1987 and 2000 are assumed to remain the same"

This contradicts Figure 1-1, which shows coal production from "other projects" declining steadily from 1987 to 2000.

30. p. 1-24. Total PRLA coal recovery is shown as 1.15 billion

¹⁸*Id.*

¹⁹*Id.*

11-51

No such village exists.

34. p. 2-7. Operating coal mines are listed.

The Gateway Mine bordering the Bisti WSA is omitted. The Fentmore Mine near Gallup is omitted. Both have production capacity over a million tons per year, according to their respective mine plans.

35. p. 2-9. The Sundance tract is shown with Federal reserves of 4 million tons, non-Federal reserves of 1.5 million tons, and total reserves of 5.0 million tons.

This is an apparent arithmetic error.

36. p. 2-9. Recoverability of non-federal coal at the Samson Lake #2/2 tract is shown as less than 2% of reserves.

This is an apparent arithmetic error.

37. p. 2-9. Total recoverable coal at the Nageezi tract is shown as 109 million tons.

This contradicts the data underlying Figure 1-1, which show 134.2 million tons.²⁵

38. p. 2-9. Total recoverable coal at the Lee Ranch West tract is shown as 202 million tons.

This contradicts the data underlying Figure 1-1, which show 70.35 million tons.²⁶

39. p. 2-9. Total recoverable coal at the Samson Lake #2 tract is shown as 9.37 million tons.

This contradicts the data underlying Figure 1-1, which show

²⁵Hamilton.

²⁶*Id.*

11-53

42.54 million tons.²⁷

40. p. 2-32. Map 2-2 shows "Bisti WSA and Associated Coal Tracts."

This map omits the coal tracts associated with Bisti WSA is the No Action Alternative-- 4 existing Federal leases, 9 existing PRLAs and at least one operating mine on a state lease are also in the area mapped in Map 2-2.

41. p. 3-2. The Star Lake Railroad is assumed available by 1967.

This appears to contradict the assumption underlying Figure 1-1 that only 682 million tons of PRLA coal will ever be produced.²⁸

42. p. 3-2. "Production would begin within 10 years of the issuance of a lease. . ."

This assumption is contradicted by the data underlying Figure 1-1, which show 10 tracts beginning production in 1994 or later.²⁹

43. p. 3-2. Under the No Action Alternative "Cumulative impacts are considered for . . . the PRLAs and the following developments located on or adjacent to the competitive lease tracts: the Animas-La Plata Irrigation Project, Star Lake Railroad, Continental Divide Pipeline, Fruitland Coal Load Transmission Line, Montmore Mine, and Lee Ranch Mine."

This list contradicts the definition on p. 1-23 of "projects that are part of the No Action Alternative." On the one hand, Continental Divide Pipeline has no federal right-of-way permit, and in fact has been cancelled.³⁰ The Star Lake railroad also has no ICC permit past Gallo Wash. Thus, neither is a "major federally approved project."³¹ On the other hand, the De-Na-Zin,

27. *Id.*

28. *Id.*

29. *Id.*

30. *Wall Street Journal*, March 3, 1963, p. 3.

31. Coal DEIS, p. 1-23.

11-54

slowly developing markets, so that production does not peak until more than a decade past the last year (2000) analyzed.³⁶ This is not a worst-case analysis.

47. p. 3-3. "On the average, start-up of construction and production on the competitive lease tracts will occur in 1986 and 1987, respectively."

This statement is false. The tract-by-tract assumptions used by BLM actually show, as the next sentence in the DEIS admits, that only about half the tracts start production by 1987. 6 tracts do not start production until the year 2000, and the mean start-up date for the 24 Target Alternative tracts is 1993.³⁷

48. p. 3-3. "Peak production will occur in the year 2000."

This statement is false. The year-by-year, tract-by-tract assumptions actually used by the BLM do not have peak production until 2013 (in the Target Alternative), and many years exceed the production level of the year 2000. See comments 9, 21, 23, and 25.

49. p. 3-3. "Production will begin no later than 1993 as required by the Mineral Leasing Act except for the Hoshah #1, Hoshah #2, and Gallo Wash #2 tracts."

This statement is false. The actual data used by the BLM show, besides the 3 named tracts, that Star Lake West #2, Kimbeto #2, and Breadsprings #2 do not start production until the year 2000.³⁸ Gallo Wash #1 and La Plata #4 start in 1995, and Lee Ranch East and Divide start in 1994. In addition, Star Lake East, Kimbeto #1, Tah-Ha-Bah well, and Samson #1 all start in 1993, but produce less than 1 percent of their reserves by that year, which would leave them in violation of the Mineral Leasing Act due diligence requirements.³⁹

50. p. 3-3. "Coal recovery tonnages are based on a 50 percent rate for underground mines. . ."

36. Hamilton.

37. *Id.*; not weighted by tract size.

38. *Id.*

39. 30 CFR 211.20(a) (47 CFR 33167, July 30, 1982).

11-56

Gateway, Bisti, Star Lake, Alamito, South Hoshah, and La Plata mines all fall into the category of "existing mine plans"³² which are "located on or adjacent to the competitive lease tracts."

44. p. 3-3. "The analysis for each alternative assumes that all tracts would be leased and developed. . ."

As the same sentence admits, this assumption is unrealistic. If the DEIS is going to assume all lease sale tracts are developed, then it has omitted any discussion of the reduced development which will have to occur elsewhere to bring production down to demand.

45. p. 3-3. "For all coal leased. . . it is assumed that markets will be available. . ."

As the same sentence admits, this assumption is false. It contradicts the more accurate DEIS statement that "the economic market and demand for coal will determine which tracts will be developed."³³

46. p. 3-3. Assuming all coal has markets results in a "worst-case analysis."

This assertion is false. Assuming all coal has markets results in high production, high environmental impacts, high revenues to Federal and state governments, and high employment. The BLM obviously does not believe that high production, high revenue, and high employment are a "worst case," or it would not have endorsed the Target Alternative. The true "worst case" might involve leasing without markets, as proposed in the Target Alternative, since that would have many of the negative impacts on Navajos, and would foreclose recreation,³⁴ without any of the offsetting employment, production, or revenue benefits.

In addition, the BLM has not actually assumed that "for all coal . . . markets will be available . . ." since if it had it would not have had to assume start-up dates delayed beyond 1987 for about half the tracts.³⁵ BLM's actual assumptions involve

32. *Id.*

33. *Id.*

34. *Id.*, p. 1-2.

35. *Id.*, p. 3-4.

36. *Id.*, p. 3-3.

11-55

This statement flatly contradicts p. 2-9, where average recovery from the 5 underground mining tracts in the Target Alternative is shown below 23 percent. Only 1 of the 5 tracts even has recovery above 26 percent.

51. p. 3-4. The No Action Alternative includes "coal production from (1) the development of coal from existing and proposed mines under contract commitments or mine plans. . ."

This statement is at best misleading. Mine plans on file just in New Mexico show much higher production than the BLM has considered.⁴⁰ The BLM has considered at most the impacts of some mines with mine plans, without saying which ones or the selection basis. Choosing only some mine plans contradicts the BLM's assertion (p. 3-3).

52. p. 3-6. Table 3-2 shows zero acres of surface facilities for non-PRLA developments in the No Action Alternative.

This cannot be true. How can mines producing over 30 million tons in 1987 (p. 1-6) on over 9000 acres (Table 3-2) not require any surface facilities? What about the Star Lake railroad and Fruitland Coal Load transmission line?

53. p. 3-6. Table 3-2 shows precise acreage disturbance figures for non-PRLA mines in the No Action Alternative.

This contradicts the BLM assertion that no specific mines were used in calculating production from non-PRLA sources in the No Action Alternative.⁴¹ If the BLM did assume specific mines and acreages year-by-year, it should say what mines it included.

54. p. 3-14. "Existing coal lease NM-0186615 and . . . NM-0186612 are in close proximity to the Bisti WSA."

This sentence omits any mention of NM-0186613, which overlaps the Bisti WSA, or PRLAs NM6801, NM11916, NM3638, and NM6802, all of which are in "close proximity" to the Bisti WSA.

40. See Table A in Section 11.D of these comments.

41. Day, personal communication, March 7, 1983.

11-57

It also ignores the existing Gateway mine bordering the Bisti WSA.

55. p. 3-14. This page contains the discussion of impacts on WSAs from the No Action Alternative. The discussion includes aural and visual impacts on Ah-Shi-Sle-Pah WSA.

The BLM completely fails to mention that virtually all of Ah-Shi-Sle-Pah is covered by PRLAs,⁴² and all of them are expected to be mined.⁴³ Mining inside a WSA is far more severe in its consequences for wilderness than railroads a mile away.

The discussion also fails to mention the PRLAs bordering and overlapping the De-Na-Zin WSA, or the fact that a road (C-15) borders the De-Na-Zin WSA and will have greatly increased traffic from the No Action Alternative.

56. p. 3-16. Tables 3-6 and 3-7 lists impacts under the No Action Alternative only for Federal coal.

This contradicts Figure 1-1, where production under the No Action Alternative purports to include existing mines and non-Federal mines.

57. p. 3-17. Under the No Action alternative, no increased traffic impacts are shown in Colorado.

This contradicts the assumption made elsewhere by the BLM that Colorado mines will produce 2.4 million tons/year if the lease sale does not occur.⁴⁴

58. p. 3-19. Under the No Action alternative, no increased accident or employment impacts are shown in Colorado.

Same comment as #57.

59. p. 3-20. Under the No Action alternative, no increased community expenditures impacts are shown in Colorado.

⁴²Coal DEIS, Visual C.

⁴³Id., p. 1-5.

⁴⁴Luscher to Burford, 1982.

11-58

Minimum Conflict, Target, and High Alternatives.

In every case, the employment shown appears to exceed that shown for the individual tracts even if all tracts are (incorrectly) assumed in simultaneous production (see pp. A-1 to A-45).

66. p. 3-25. "Navajos living on PRLAs that are surface mined may be temporarily relocated."

PRLA mine life is estimated at 35 years.⁴⁵ Even if an individual Navajo is still alive after 35 years, there is no provision in the PRLAs for allowing relocated Navajos to return after completion of mining. The word "temporarily" would seem to be inaccurate.

67. p. 3-48. One paragraph lists land-use impacts associated with the High Alternative.

The High Alternative assumes production of 1.65 billion tons of coal which would not otherwise be produced.⁴⁶ This assumption is false, since in reality demand will constrain production (see comment #44-45), but it is the BLM's assumption. Yet the DEIS contains no analysis of the impacts of the projects which would have to exist to make full production in the High Case possible. In particular, there is no discussion of synfuels plants as a likely land use associated with high production. Synfuels plants have been repeatedly proposed for northwest New Mexico. The DOE high production goals explicitly include synfuels. Two New Mexico synfuels proposals using coal have been submitted to the U.S. Synfuels Corporation.⁴⁷ The Eastern Associates PRLAs are held by a subsidiary of Texas Eastern Transmission, a natural gas transmission company whose Transwestern subsidiary has in the past proposed to gasify Northwest New Mexico coal. If the DEIS is going to assess the impacts of full production of leases in the High Alternative, then it must assess the impacts of the resulting synfuels plants, coal plants, or other uses of the additional production. It cannot tacitly assume the coal just gets mined and not used. Nor can it claim that the use would have existed anyway, since such a claim contradicts the different

⁴⁵Coal DEIS, p. 1-5.

⁴⁶Id., p. 2-10.

⁴⁷TBS Coal Study, February 1983.

11-60

Same comment as #57.

60. p. 3-22. Table 3-13 shows severance and property tax increases.

This table assumes that increased leasing leads to increased production and hence increased tax revenues, an incorrect assumption. See comments #45 and #46.

61. p. 3-23. Under the No Action alternative, no increased water use or wastewater treatment impacts are shown in Colorado.

Same comment as #57.

62. p. 3-24. Table 3-16. Under the No Action alternative, no population impacts are shown in Colorado.

Same comment as #57.

63. p. 3-24. Table 3-17 shows Navajo Indian employment increasing with higher leasing.

This table assumes that increased leasing leads to increased production, which is false (see comments #45-46). It assumes Navajos will get over 35% of all new jobs in the No Action Alternative, and over 47% of all new jobs in the Target Alternative (cf. p. 3-19). These are exceedingly high values which have no documentation. It ignores the effect on Navajo employment if large existing (McKinley) and proposed (Burnham) mines on the Navajo reservation produce at lower than planned levels because of PRLA issuance and/or new lease sales.

64. p. 3-24. Table 3-17. The Bypass Alternative is shown producing 3116 new Navajo jobs.

This utterly contradicts the mine-by-mine analysis for the 8 Bypass tracts, (pp. A-1, A-2, A-5, A-9, A-11, A-18, A-21, A-22), which shows only 666 employees even if all tracts were operating simultaneously. In fact the BLM expects some of these tracts to end production in the 1990s, while others start up in 1995, 2000, and 2010. So employment would never even reach 668, and of course many employees would be non-Navajo.

65. p. 3-24. Table 3-17. Employment for Navajo is shown in the

11-59

consumption levels under different alternatives shown in Figure 1-1.

This comment applies to all the alternatives, not just the High Alternative, since the BLM says all of them would result in production above the level in the No Action Alternative.⁴⁸

68. p. 3-64. Referring to the proposed NMGS, "four 500 MW units are proposed, with the earliest possibly being needed by 1990."

This statement is false. PNM does not plan the first unit until 1995, and even with its highest demand forecast would not need it by 1990.

69. p. 3-64. Discussion of the proposed NMGS.

No mention is made of PNM's billion-dollar aluminum recovery plant proposed for construction in conjunction with the power plant,⁴⁹ or its impacts.

70. pp. 66 to 66. Table 3-22 summarizes "affected resources considered in the cumulative overview."

No consideration is given to the impacts of large industrial developments associated with NMGS (aluminum plant--see comment #69) or coal production (synfuels plants -- see comment #67).

71. p. 4-3. Water issues are not addressed in the DEIS.

The DEIS dismisses analysis of water issues by saying they are "beyond the scope of this DEIS," and under someone else's jurisdiction. Employment is not under BLM jurisdiction, but it is discussed (p. 3-22). Road widening is not under BLM jurisdiction, but it is discussed (p. 3-77). Population is not under BLM jurisdiction, but it is discussed (p. 3-24). Property taxes are not under BLM jurisdiction but they are discussed (p. 3-22). The availability of the Star Lake-Bisti railroad is no longer under BLM jurisdiction, since BLM has issued permits, but the railroad is discussed (p. 3-2). In fact water availability can be discussed in this EIS and should be discussed.

⁴⁸Coal DEIS, p. 1-6.

⁴⁹New Mexico Sun, February 21, 1983, p. 2.

11-61

72. pp. A-1 to A-45. Tract-specific data on lifetime, production rate, and total production are presented.

These numbers are mutually contradictory, because the production rate given is actually the maximum rate, not attained in all years. The DEIS should say so.

73. pp. A-1 to A-45. Tract specific data on recoverable Federal coal and royalties are presented.

For each tract recoverable Federal coal and expected Federal royalties are given. From these an implicit price per ton can be calculated. These prices vary considerably. The actual analysis used \$20/ton for all surfacemined coal.⁵⁰ The apparent variance is because the tonnages on pp. A-1 to A-45 do not correspond to the tonnages used in calculating royalties. The tonnages actually used by the BLM are the same as those which underlie Figure 1-1.51 Pages A-1 to A-45 should be corrected.

74. pp. A-1 to A-45. Tract specific revenues are shown.

The BLM implicitly assumes that coal prices do not change in real terms,⁵² so that the value of coal mined in 2010 is the same as the value of coal mined in 1990. This simplifies the calculation of royalty numbers, but is misleading. A million dollar royalty payment in 2010 is not the same as a million dollar payment in 1990, even if there were no inflation at all, simply because one must wait 20 years to get it. The BLM should explicitly state its inflation assumptions, state what year's dollars it is using, and discount all revenues back to current (1983) dollars. Not doing so immensely overstates the net present value of leasing.

75. A-7. Nageezi tract recoverable reserves are 109 million tons.

See Comment #37.

⁵⁰Hamilton.
⁵¹Id.; see also comments 37-39.
⁵²Id.

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76. A-11. Bisti #6/8 Tract has recoverable reserves of 1 million tons but will produce 5 million tons/year.

This is impossible.

77. p. A-13. Lee Ranch East tract production would be "800,000 million tons per year."

This is a typographical error.

78. p. A-16. Lee Ranch West tract has recoverable reserves of 202 million tons, a projected life of 25 years, and production of 3 million tons/year.

These figures are self-contradicting. Also see comment #38.

79. p. A-26. Bisti #1 tract production would be 127 million tons.

This ignores the reduction resulting from the Bisti Land Exchange.

80. p. A-27. Bisti #2 tract production would be "82 million tons per year."

This is a major typographical error.

81. p. A-29. Sundance tract production would be "200,000 million tons per year."

This is a typographical error.

82. p. A-30. Samson Lake #2 tract will produce 1.6 million tons/year for 29 years, yet total production will be only 9.37 million tons.

These figures are self-contradicting. See also comment #39.

83. p. A-43. Gamero #1 tract total reserves are less than recoverable reserves.

II-63

This situation is impossible.

84. p. A-47. Initial expressions of interest were "2.3 billion tons." "900 million tons" were withdrawn. "1.9 billion tons" were left.

These figures are self-contradicting. In fact, both the 2.3 billion tons and 1.9 billion ton numbers are wrong.

85. p. A-53. The Bisti #1, #2, & #4 tracts are included because they are, among other factors, "less than 5 miles" from the proposed Star Lake railroad.

The Star Lake railroad has never received any ICC permit beyond Gallo Wash, many miles from Bisti.

86. p. A-54. The Bisti #6 tract is included because it is, among other factors, "less than 5 miles" from the proposed Star Lake railroad.

Same comment as #84.

87. p. A-56. The Catalpa Canyon tract is included because it has, among other factors, a "high quantity of coal."

Catalpa Canyon has 0.4 million tons of Federal coal, the least of any of the 39 tracts included in the DEIS (p. 2-10).

88. p. A-57. The Gamero #1 (HC) tract is included because it has, among other factors, a "high quantity" of coal and "moderate" production potential.

Gamero #1 (HC) has 3.0 million tons of Federal coal, the sixth lowest among the 39 tracts in the DEIS. (p. 2-10). It has expected production of 0.14 million tons/year (p. A-21), the third lowest of the 39 tracts in the DEIS (pp. A-1 to A-45).

II-64

D. Mining Company Estimates of Coal Production Capacity in the San Juan River Region

Table A shows that, given a market,¹ coal production from only existing mines, existing leases with mine plans, and Preference Right Lease Applications in the San Juan River Region will be far higher in 1990 and later years than the DEIS admits,² according to mining company data. BLM has understated the production capacity of existing mines and leases, thus artificially creating an apparent basis for new leasing.

Table A summarizes coal company estimates of coal production capacity in the San Juan River Region. It is based primarily on the mining company's own plans, as submitted to State of New Mexico regulatory authorities. It does not include any production capacity for New Mexico leases where a mine plan has not yet been filed. Table A is an up-to-date version of similar mine-by-mine analyses which have been performed by the State of New Mexico³ and the BLM.⁴ The actual production in the San Juan River Region in future years will be constrained by demand, as it is today. All of the mines shown are capable, however, of

¹BLM has assumed that all San Juan River Region coal will have a market (Coal DEIS, p. 3-3).

²Coal DEIS, p. 1-6.

³Martinez, Table 38, p. 48.

⁴John SanFilippo, attachment to Regional Coal Team minutes, meeting of September 2, 1981.

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producing at the level shown. The figures are based on a 1987 operation date for the Star Lake Railroad.⁵

Table A indicates that, by 1995, New Mexico mines and existing leases will be capable of producing over 47 million tons/year, with another 8.6 million tons/year available from Colorado mines within the San Juan River Region. The Coal DEIS, however, shows "production from other sources under the No Action Alternative" of less than 30 million tons/year.⁶ For the PRLAs Table A shows 1995 production (given a market) of 36.6 million tons. The BLM itself has used 36 million tons/year production figures for PRLAs,⁷ but the Coal DEIS shows only 20.5 million tons/year.⁸

The BLM should justify its lower estimates by explaining which of the existing mines and leases should have production capacity scaled back to match BLM's figures.

⁵BLM assumes a 1987 date for operation of the Star Lake Railroad (Coal DEIS, p. 3-2).

⁶Id., p. 1-6.

7 PRLA FEA, p. 145.

⁸Coal DEIS, pp. 1-4 and 1-6; Hamilton.

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Comments on the San Juan Basin Action Plan
Draft Environmental Impact Statements for
the New Mexico Generating Station,
Proposed Wilderness Areas, and
Competitive Coal Leasing

Submitted by
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April 8, 1983

TABLE 6
Mining Company Estimates of Coal Production

[illegible]

^a The increase in the number of fish already tagged resembles current catch patterns.

11-5-

OPENING REMARKS

Friends of the Earth submits the following comments in response to the Interior Department's Draft Environmental Impact Statements for coal leasing, the New Mexico Generating Station, and wilderness, as part of the San Juan Basin Action Plan. The area considered for action in Northwest New Mexico is one of exceptional natural beauty, rich cultural heritage, and geologic significance. In its single-minded determination to divest the public of its energy holdings, the Interior Department has once again ignored its mandate to manage all resources and to protect the public interest.

OVERVIEW

In conducting the environmental impact statement for the San Juan Basin, the Bureau of Land Management (BLM) was charged with evaluating the diverse components of the resource base; with assessing the specific environmental impacts upon each of the components of that resource base with regard to a range of possible actions by the Department of the Interior; and with reviewing alternative mitigation strategies in order to provide decision makers with informed policy options.

The results, costs and benefits of the selection of each alternative action are supposed to be apparent from the assembled

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data. In addition, such a document is also supposed to examine the need for any action at all, and in particular, the need existing which warrants the selection of the preferred, or target, alternative. The BLM has planning and procedural responsibilities which are directed by several Federal statutes, including, but not limited to, the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA), the Federal Coal Leasing Amendments Act (FCLAA), and the Surface Mining Control and Reclamation Act (SMCRA). These laws expressly require comprehensive land use planning, protection of other than energy values, involvement of the public and any affected parties, receipt of fair market value in all transactions and multiple use and sustained yield on the public land.

Whether due to inadequate resources, insufficient time or improper direction from political appointees in Washington, D.C., the BLM has failed to carry out its statutory responsibilities in each of the areas mentioned above: (1) evaluation of the resource base; (2) evaluation of the impact of various activities upon the resource base; (3) evaluation of mitigation strategies, their relative effectiveness and cost; (4) the evaluation of the need for any action at all and for the preferred alternative in particular; and (5) in carrying out BLM's planning and procedural responsibilities under law. Compliance with these legal responsibilities will require significant amendment. We request that all three DEIS's be restudied and resubmitted for public comment before publication of the final EIS.

The comments of Friends of the Earth reflect these areas of

- 2 -

The pace and scope of leasing levels anticipated in the 1979 programmatic coal EIS have been greatly accelerated by the current administration. Failing to evaluate the need for leasing on the basis of the 1979 EIS (1-1) is a serious mistake.

The leasing target was not established after consultation with current state officials. The region currently supports a significant overcapacity in its ability to meet demand for the foreseeable future from existing reserves under private control. The DEIS makes no attempt to evaluate regional or national supply and demand. For a variety of reasons, including the low Btu content of San Juan coal and the relatively low price of other regional coal and lignite, combined with the continual decline in the growth of electricity demand, the need for major new supplies of coal in this region has not been established. For example, a recent study of coal market conditions done for the New Mexico Energy and Research Development Institute found that by 1990, the demand for New Mexico coal would be 29.5 million tons or less. It was also discovered that existing mines, as well as mines already holding plans, could produce 28.8 million tons in 1990 - without new leases, PRLA's, the Star Lake Railroad or expansion of existing mines. (For additional information on the potential of Federal coal leases, refer to December, 1981 Office of Technology Assessment report, "An Assessment of Development and Production Potential of Federal Coal Leases".)

In setting leasing targets for the region, DOI, in essence, manufactured a "need" for additional coal leases by refusing to

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concern, among others. We incorporate by reference the comments and support of other citizens groups with regard to these DEIS's, including those of the Southwest Research and Information Center, the Sierra Club, the Natural Resources Defense Council, and Citizens For A Better Environment.

THE FEDERAL COAL PROGRAM

The Federal Coal Program is not "fully described" (1-1) in DOI's 1979 documents. Significant changes have occurred since that time, including, but not limited to, the rules governing tract selection, fair market valuation, leasing targets, diligence requirements for pre-1976 leases (which will affect the amount of Federal coal remaining under lease), deadlines for Resource Management Plan completions, the definition of eligible Federal land areas, and opportunities for public participation. The fact that the 43 CFR 3400 regulations are on file at the Albuquerque and Farmington offices is not sufficient to "fully describe" the coal program to the public. A new narrative document which fully and accurately describes the new rules which BLM is following should be produced.

THE NEED FOR LEASING

- 3 -

include the production potential from (1) existing Federal leases; (2) state leases, (3) Indian leases, or (4) private coal holdings. The Department should do a thorough, objective analysis of the current supply and demand relationship which exists in the region before any further action is taken with regard to any component of the San Juan Basin Action Plan, with the exception of congressionally designated wilderness areas. The recommendations, as published, are little more than a transparent excuse to give away public coal in spite of market conditions.

LAND USE PLANNING

The DEIS mentions a "Chaco-San Juan transition MFP" (1-3), but nowhere discloses plans to write a Resource Management Plan for the region, as required by FLPMA. This MFP is not the comprehensive land use plan called for by the Act and is inadequate as the basis for making major coal leasing decisions. The new coal leasing program includes no criteria for evaluating the adequacy of any MFP's. Seven years have passed since the enactment of FLPMA, and if the Department is planning to comply with the law and prepare RMP's, the resource planning should be done first, and the decision-making second, in accordance with the intent of Congress. It makes no sense to plan for preparation of an RMP at an unspecified date, while making all the major resource management decisions now, in advance of that analysis.

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AVAILABILITY OF COAL

The rights to some portions of the coal which BLM proposes to lease may be legally encumbered, and therefore, unavailable for lease. There is no mention in the DEIS of any lawsuits which have been filed contesting the title of BLM lands, despite the fact that ownership of most of the "Checkerboard" area is being contested. In order to avoid a climate of uncertainty for the prospective lessees, the EIS should acknowledge the unresolved legal questions and BLM should consider deleting those tracts which are subject to legal challenge until such time as the the land disputes have been adjudicated.

PRLA's

Among the more remarkable assertions contained in the DEIS is that somehow the granting of 26 non-competitive leases and the attendant destruction of a thousand fossil sites, 600 archaeological sites, dislocation of 55 Navajo families, etc. (1-24/1-27) constitute a "No-Action Alternative". In fact, a no-action alternative - the issuance of no new leases - is never considered in the DEIS. The rush to grant PRLA leases has been imposed by BLM in Washington, which at the same time has failed to give direction and resources to the state BLM offices in order for the agency to adequately fulfill its varied

legal obligations.

BLM procedure in processing these claims is sorely lacking in almost every category. Recent regulatory activity at DOI has eliminated previous requirements regarding BLM procedures in evaluating the anticipated impacts, mitigation procedures and reclamation techniques, for inclusion into standard lease stipulations. "Streamlining" was the reason given for these changes and the rulemaking promised that "internal memoranda and manuals" outlining the new procedures, would be forthcoming. No such manuals have yet been produced, nor are any being prepared.

No tracts are designated unsuitable for mining despite abundant evidence to support designations. For example, BLM regulations (43 CFR 3461.1(c)) say "cemeteries" and "churches" are unsuitable for mining. Yet the "no-action alternative" clearly calls for disturbing numerous sacred sites and graves. Mitigation costs go unmentioned, perhaps because they might affect the commercial viability test for granting the PRLA - indeed, the very question of whether or not coal companies will be able to get public land for next to nothing.

A full EIS is required. The EA is completely insufficient, as is the attempt to place these findings in the coal leasing DEIS document. NRDC v. Berkland specifically directs that the Secretary "should have before him a comprehensive EIS which includes a careful examination of possible performance lease standards, alternative methods for meeting those standards, and estimated costs of compliance." It is

self-evident that neither document which purports to analyze PRLA lease issuance is in compliance with the court order.

Prior to publication of the EIS, BLM needs to: (1) examine prior claims on PRLA land; (2) research the validity of the original prospecting permits, many, if not all of which are of questionable legality; (3) produce the promised PRLA leasing manual; (4) properly designate areas unsuitable, and (5) properly evaluate mitigation and reclamation costs. In order to accomplish the above, BLM will need to temper its unmitigated haste in handing over these areas of the public land, and spend money on the necessary analyses. To this end, state BLM offices will no doubt need to request budgetary adjustments.

FAIR MARKET VALUE

Neither the coal EIS nor the coal leasing regulations give any hope that one of the primary objective of FCLAA - obtaining "fair market value" (FMV) for public resources - will be accomplished. Although the 1976 law requires it, the BLM has thus far avoided complying with the intent of Congress. This failure may be rectified in court.

The question of "fair market value" is closely linked with the need for leasing, market demand, and competition. Flying in the face of the "market-orientation" rhetoric coming out of the Secretary's office, the Department has essentially taken a damn-the-taxpayers,

anti-FMV position of divestiture with the coal program. In violation of the Administrative Procedure Act, Interior officials changed the "fair market value" of the coal for the Powder River sale in order to sell it off when the market did not demonstrate a need for additional resources.

The market situation today is such that there are currently about 18 billion tons of Federal coal under lease, being mined at the annual rate of less than 70 million tons/year, or less than 1/2 of 1% a year. In order to obtain FMV, leases must be issued with some reasonable prospect of development. We suggest the following: (1) BLM analyze the economic effect of accelerated leasing in the midst of a depressed market and determine the likelihood of obtaining higher bids within the next 20 years (the standard lease term), offering only those tracts which can be shown to be lacking in future appreciation value; (2) BLM delete any tracts where there is no reasonable prospect of mining within ten years; and (3) BLM analyze the assignment market in federal coal and refuse to accept any bid below the going rate. In this way, the requirement to safeguard the public purse would be met.

MITIGATION OF IMPACTS

In perhaps the most deficient section in all of the coal leasing EIS, BLM has completely failed both to analyze the impacts of granting competitive coal leases, and to formulate plausible mitigation

strategies. This failure is twice as evident in regard to PRLA's, where specific, detailed cost analyses are required before the applications may be processed.

By taking such a superficial approach, BLM has failed to advance a management plan which would protect other than mining interests. The sections on air quality, water quality, paleontology, soil disturbance and reclamation, cultural resources, and socio-economic impacts, including concerns of American Indians need to be restudied and rewritten, with an invitation to the public to help correct the existing deficiencies.

For example, it is clear that mining under the target alternative will significantly violate air quality standards for total suspended particulates (TSP). (The BLM "errata sheet" has tried to change the word "violate" to "exceed". The correct word is violate.) According to the Mitigating Measures section of the EIS, "emissions (TSP) would be reduced by decreasing the amount of coal mined and the acres disturbed per year." (3-50) Is this going to be written into the coal contracts? When TSP reaches a certain level, as the EIS has assured us it will, will the mines be shut down?

Under the Paleontology section, it is suggested that "Private or institutional support for an ongoing paleontological research program in the general EIS region might also affect losses otherwise incurred." (3-50) How does BLM intend to find such support? What role does the agency expect to play? And what if they are unable to

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Council indicates that BLM has failed to count residents on 75-801 of the PRLA area, and a lesser percentage on the competitive tracts. Her assertion that "the minimum number of households to be affected by coal leasing would be closer to 239 than 39" indicates to us that the human resource evaluation has been inadequate, at best.

Furthermore, there is no discussion of where people are to be relocated, what compensation will be given, different relocation scenarios and their respective costs, the psychological impact of forced relocation upon the Navajo residents and the probable socio-economic impacts on the area they are to be relocated to. Instead, the coal EIS merely states that "details will be worked out" (A-68) between the coal companies and the residents as the plans are implemented. Finally, the EIS should clearly and unequivocally state the opposition of these Navajo people to any relocation scheme, as well.

PALEONTOLOGICAL, ARCHAEOLOGICAL, SACRED SITES AND GRAVES

These diverse resources are being considered here as a group to reflect the similarly generalized and cursory treatment given them in the DEIS. In brief, it seems that the agency (1) really doesn't know the breadth and significance of the resources located within the

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secure outside funding? How will that affect mitigation strategies for paleontological resources?

In the Visual Resources section, BLM states that "Compliance with OSM regulations would usually ensure the regional scenic quality." (3-51) When wouldn't it? What is BLM going to do about guaranteeing scenic quality? Is BLM going to acquiesce to anything OSM says, even as that agency is in the midst of changing it a rules?

There are a few examples of the thorough inadequacy of BLM's work on impact mitigation. We repeat that it will be necessary to go back to the drawing board and conduct the scientific evaluation necessary to precede resource management as called for by law.

RELOCATIONS/TRANSITIONS

In the overview, we discussed the generic problem found throughout the EIS of BLM's failure to properly evaluate the resource base, the impacts on that base, and the costs and the effectiveness of various mitigation strategies. While these concerns clearly apply to resources such as fossil fuel reserves and ancient cultural sites, they also apply to human resources. In this area, BLM has done no better job in analyzing any possible impacts.

Recent testimony by Clara Kelley of the New Mexico Archaeological

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basin; (2) isn't planning on finding out what they are; (3) isn't going to require that the operators do sufficient work to find out what they are, and (4) therefore, has not calculated the cost of either the necessary scientific research, or of the necessary protective measures that are required by law.

For example, on page 2-11, BLM suggests that the Menefee Formation, which is proposed for stripmining, "may yield significant paleontological material upon close inspection", but that "no detailed paleontological work" has been done. No suggestion is made to assess the area further; rather it is simply proposed that the area be mined.

We are not convinced by the hopeful argument that stripmining will be of great help to archaeologists and other scientists. The caveat that "time frames could affect the quality of the data recovered" (1-30) is a better reminder that mining is obviously planned as the dominant use of the land with all other activities and values to be subordinate. The casual attitude and lack of commitment to preservation make one wonder whether BLM merely intends to videotape the excavation of the San Juan Basin in order to mitigate the time concerns (time between the raising of the historic object from the ground and the time it is pulverized or otherwise culturally diminished) and record the scientific data for posterity. Of course even if this were planned, BLM has failed to analyze the cost of cameramen, videotape, and the time of scientific specialists who would spend hours watching the instant replays in order to gain historical insight on what we have lost.

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BLM should require extensive, careful, scientific study of these irreplaceable treasures. As to the PRLA's, the Bureau must accurately evaluate the cost of the painstaking research which these scientific rarities clearly warrant. With ancient cities, petrified logs, and dinosaur bones being placed in a possibly precarious position, the need for drastically improved analysis ought to be apparent.

A good starting place would be to use the model of Table 2-9, which refers to cultural resources on the competitive tracts. In this case, the same level of detail should be given to analyzing all the relevant historical occurrences, including paleontology, sacred sites and graves. It ought to include all the PRLA tracts, as well. Then the BLM should do analysis which is genuinely informative at that level of detail, rather than speculative.

Friends of the Earth joins with the New Mexico Archaeological Council in urging that the heretofore standard practice of 100% archaeological survey coverage of lands to be stripmined for coal not be abandoned. BLM inventoried more than 20% of the land on only 3 of 39 tracts (2-27), which is likely to result in the underestimation of resources and consequently, increase the rate of destruction of unrecorded, potentially significant sites.

The cavalier attitude exhibited by BLM toward other than energy resources is demonstrated in the brief discussion of the destruction of four known sacred sites under the no-action plan (1-27). If the

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no plans to construct the NMGS until 1995, the preparation of an EIS twelve years in advance is not within NEPA compliance, since it cannot consider the advances in power generation technology, as well as the site, coal supply, and air pollution control alternatives which may become available within the next decade, and which may be "essential to a reasonable choice" as defined by NEPA.

Also, taking into account the fact that PNM has yet to apply for a Certificate of Public Convenience and Necessity from the State of New Mexico, approval of a final EIS would be illegal as well as unnecessary.

The BLM should suspend any further action on this EIS since the agency is only complying with the utility's view that EIS's are regulatory burdens which can be arranged for clearance at the utility's convenience.

Friends of the Earth insists on proper and complete NEPA compliance for this generating station proposal, within a reasonable time frame. Such compliance will allow the decision-maker the opportunity to make a well-founded choice within the parameters of the law. Clearly, the procedure adopted here, utilizing this grossly inadequate EIS, cannot allow that choice.

Our specific comments to the NMGS EIS follow:

(1) ALTERNATIVES AND NEED:

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sites are not destroyed outright by stripmining, it is pointed out that population increases, noise, vibrations, and dust would cause adverse effects, too. BLM's mitigation plan? "It is possible to reduce or eliminate the effects through ceremonies."

Indians, scientists, the American public, and future generations deserve a vastly improved plan for analyzing and protecting the historical treasures of the San Juan Basin.

NEW MEXICO GENERATING STATION (NMGS) AND POSSIBLE NEW TOWN

This EIS, prepared by a subcontractor to BLM at the cost of \$1.5 million, is, in our view, quite biased in its assumptions, totally arbitrary in its conclusions, and therefore, basically devoid of merit. The document is inadequate in substance and analysis. Thus, it fails to properly assist a decision-maker in reaching a reasoned conclusion. For this reason, it cannot be viewed as being in valid compliance with NEPA provisions.

To begin with, the EIS skirts the NEPA requirement of alternatives (43 CFR 1502.14) by its selection of various component routes, coal resources and the like without providing a true no-action alternative as required by law.

Secondly, considering that Public Service of New Mexico (PSNM) has

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-Table S-2 does not address a true, no-action alternative. Neither do pages 3-49 to 3-52, nor Appendix A. Thus, p. A-4 is an irrelevant discussion.

-There is no New Mexico-specific discussion of alternatives, including a quantitative one, as well as a true no-project alternative.

-The subject of conservation, which could likely displace the entire need for the project, is considered in only one sentence of the EIS.

-The "need" for the project is based on out-of-date utility forecasts, already superseded by later PNM forecasts.

-The EIS's inclusion of New Mexico Electric in Hobbs as part of PNM is in error.

-The EIS analysis assumes PNM has no purchase power resources. To the contrary, the utility already has contracts with El Paso Electric and Southwestern Public Service which could supply enough power to displace completely the project until the end of this century.

-The EIS completely ignores cogeneration, although the utility presently operates cogenerators in their service area.

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-Although the EIS mentions the possibility that local residents could be given priority for NMGS-related jobs, there is no guarantee that this will take place. Furthermore, the need for training in such an instance is never addressed. Both these omissions deserve consideration.

(2) AIR QUALITY:

The EIS is particularly deficient on the subject of air quality considerations. A few examples will be discussed here:

- The statement on p. 3-1 regarding the absence of cause-and-effect relationships between coal-fired power plants emissions and acid precipitation is patently wrong.

- Sulfur emissions controls beyond 85% are not considered, although much higher levels of attainment are possible.

- NOx controls beyond 30% are not considered, although significantly higher levels of attainment are possible.

- In fact, this EIS lacks any discussion of how NMGS could be made to be less polluting - an omission that blatantly disregards the NEPA regulatory requirement that EIS's "Include... mitigation not already included..."

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interests, it is not yet certain whether or not sufficient water resources would be available for use by the NMGS by the time it is to be constructed. Such an ignorance of these competing interests - including "Indian interests" - for this water resource ignores NEPA's EIS regulations, which require the discussion of "possible conflict (with) Indian...plans, policies..."

Further still, no mention is made of other alternative use of this 35,000 acre/feet per year use of San Juan River water in terms of their costs/benefits that would be foregone as a result of the application of this water to NMGS.

Considering also, that the plant is, as yet, undesignated, how does PNM calculate its need for 35,000 acre/feet of water annually?

Moreover, since no ground water has ever been withdrawn from the proposed aquifer source, how can PNM assume it can be a reliable source or not interfere with existing area groundwater withdrawals?

On the subject of water quality, the OEIS seems to downplay the fact that the construction and operation of NMGS will detrimentally affect the character of the San Juan River. Increased suspended sediment loads, additional dissolved solids and the possibility of fuel, oil, and solvent spills are just some of the potential threats to the river. Likewise, nonpoint-source pollution

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- The continuing degradation of air quality in the San Juan Basin, especially in Chaco Canyon National Historic Park, as a result of operating a third coal-fired power plant in the area, is of particular concern to Friends of the Earth. Siting this proposed plant directly upwind of a National Park, where its plume stacks would track directly over the park in full view of Park Visitors, represents an intolerably contemptuous attitude on the part of the utility. The BLM, with its complacent attitude toward PNM, is being equally disdainful in regard to interagency resource management decisions which would adversely affect the integrity of our National Parks.

Recently, the National Park Service expressed concern over the quality of the DEIS air pollution analysis for NMGS and requested that the study be redone. Friends of the Earth concurs with this opinion and insists that a realistic alternative site be found for NMGS that does not impair the quality of Chaco Canyon National Park.

(3) WATER RESOURCES:

The EIS is also quite deficient concerning the subject of water quality and water resources, especially as viewed within the context of New Mexico's scarce water "budget".

Since the San Juan River, the only reasonable source of usable water for the project, is presently over-allocated, and will likely be mired in continued litigation by various competing

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of water may occur from the generating station's stack emissions, possibly contributing to acid precipitation.

(4) THE "POSSIBLE" NEW TOWN:

The proposed action to construct a new town requires EIS compliance not ambiguity. The analysis of the proposed land exchange and new town (p.I-1 through III-5) is thoroughly insufficient in this regard. Among the issues that need to be addressed are: social impacts on traditional Navajos in the area; water quality and quantity needed for the maintenance of the town, itself; and possible future industrial developments and related water supply problems.

PROPOSED BISTI, OE-NA-ZIN and AR-SHI-SLE-PAR WILDERNESS AREAS

Friends of the Earth supports the inclusion of all 3 of these rugged badlands in the National Wilderness Preservation System.

Our specific comments to this EIS follow:

- The Chaco-San Juan MFP Update for coal is cited as the source for the decision not to recommend the Ah-shi-sle-pah WSA for wilderness designation. However, such a procedure is not consistent with CEQ regulations (43 CFR 1502.5), nor with the analysis in this EIS.

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- The EIS does not indicate the reasonable alternatives of trading out the coal in this USA, as provided by 43 CFR 3430.5-4, as well as in the NRDC v. Berkland decision on NEPA treatment of the PRLA's. Considering the abundance of coal in the San Juan Basin, trading out the coal reserves in this area should be BLM's preferred alternative.

OTHER GENERAL COMMENTS

Please indicate the nature of involvement and documentary evidence of the consultation with the Department of Energy and Justice. (1-1)

It is stated that no bids will be accepted which do not equal or exceed "fair market value" (1-12). Please indicate the criteria and procedures which DOI has been following and will follow to assure the taxpayer of FMV.

The EIS states that unsuitability criteria do not apply to portions of the Continental Divide National Scenic Trail (1-15), where the study corridor traverses coal tracts. Friends of the Earth believes that because the chosen treadway may be compromised by mining activities, DOI must apply unsuitability criteria up until the time that the treadway is established. Otherwise, mining becomes a

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dominant use activity, rather than a component of multiple use,
thereby pre-empting the decisions to be made regarding the National
Scenic Trail.

BLM states that regulation will be established within 3 years of original land disturbance (1-19) and that 10 years would generally elapse between the time an area was opened up by surface mining and grazing in that area could be resumed. (3-25) To our knowledge, this is sheer fantasy. We doubt that BLM has any evidence to back up these claims. In addition, it is highly unlikely that grazing would be allowed at an active mine, most of which are anticipated to have 30-40 year mine lives.

Since "costs generated by population growth often exceed the revenues in the first few years of development" (1-21), does BLM plan to seek prepayment of royalties or in any other way make financial provisions to mitigate socio-economic impacts.

A phrase on p. 1-21 says "another issue is the perceived impact to public health and safety from air and water pollution associated with coal development facilities." The issue is not a problem with perception, but with reality.

L. G. Fugate

Gordon Anderson

Colorado Plateau
Representative

- 23 -

Natural Resources Defense Council, Inc.

[illegible]

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Mr. Charles W. Luscher
State Director (912)
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Mr. Luscher:

Attached at the comments of the Natural Resources Defense Council, Inc., its Public Land Institute, and the National Wildlife Federation on the above-captioned draft Environmental Impact Statement (EIS). Our comments focus on the EIS's treatment of the twenty-six preference right lease applications that are pending in the region and on the EIS's failure to consider the EIS's failure to satisfy the non-discretionary requirements of the National Environmental Protection Act of 1969 (NEPA) as applied to these applications.

In particular, the draft fails to consider alternatives to the issuance of these leases to evaluate the site-specific impacts of their development. The analysis it does provide has numerous deficiencies. The unsuitability criteria are trivialized, and no effective mitigation measures or lease terms are recommended.

In our view, the draft EIS's treatment of these applications is "so inadequate as to preclude meaningful analysis." 40 CFR § 1502.9, and the Bureau is, therefore, obligated to prepare a revised draft before proceeding any further. Id. In any event, it is clear that the Bureau is precluded from issuing any of these preference right leases until it has prepared, considered and circulated an EIS which complies fully with NEPA's requirements.

Thank you in advance for considering our comments.
If you have any questions about them, please do not hesitate
to contact me.

Sincerely,

Laura B King
Laura B. King

Laura B. King

LBK: rjf

$L_{\text{eff}} = 1.0 \pm 0.01$ (see Table 1 for details). The effective length of the system is

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COMMENTS OF THE

NATURAL RESOURCES DEFENSE COUNCIL, INC.,
ITS PUBLIC LANDS INSTITUTE AND THE
NATIONAL WILDLIFE FEDERATION

ON THE

SAN JUAN RIVER REGIONAL COAL
ENVIRONMENTAL IMPACT STATEMENT

Laura B. King
Carolyn R. Johnson
April 7, 1983

N. J. England, *Officer*, 171001 DRILL INSTRUCTOR, STATION 7000, 101st AIRBORNE DIVISION, 2105th

COMMENTS ON THE SAN JUAN RIVER
REGIONAL COAL ENVIRONMENTAL IMPACT STATEMENT

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COMMENTS ON THE SAN JUAN RIVER
REGIONAL COAL ENVIRONMENTAL IMPACT STATEMENT

I. INTRODUCTION

These comments are submitted on behalf of the Natural Resources Defense Council, Inc. (NRDC), its Public Lands Institute (PLI) and the National Wildlife Federation (NWF). NRDC, PLI and NWF are national, environmental organizations with longstanding concerns about the management of public lands and the leasing of federal coal throughout the West, including New Mexico.

The coal development proposed in the Draft San Juan River Regional Coal Environmental Impact Statement (EIS) is a part of the San Juan Basin Action Plan. Also included in the Action Plan are proposals discussed in the Draft Proposed Wilderness Areas EIS and the Draft EIS on Public Service Company of New Mexico's Proposed New Mexico Generating Station. The cumulative impacts of all these proposals are purportedly analyzed in the Cumulative San Juan Basin Action Plan Overview. While these comments are confined to the San Juan River Regional Coal EIS, NRDC, PLI and NWF wish to go on record in opposition to all the development actions proposed in these documents.

First, as will be discussed at greater length below, we are frankly appalled by the "preferred alternative" to issue leases for a total of 3.4 billion tons of coal. The consequences of

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this unwarranted action would be simply devastating. Second, we strongly oppose the proposed recommendation not to designate the Ah-shi-sle-pah Wilderness Study Area for inclusion in the National Wilderness Protection System. Third, we believe that the proposed New Mexico Generating Station is unnecessary and extremely undesirable.

Time and resource constraints prevent us from commenting here on the Proposed Wilderness Areas EIS and the Proposed New Mexico Generating Station EIS. We have reviewed both documents, however, and find neither one to meet the fundamental requirements of the National Environmental Policy Act (NEPA). Their deficiencies are amply demonstrated in the comments of the Environmental Defense Fund and of the Rio Grande Chapter of the Sierra Club, the Committee on Coal, and the New Mexico Audubon Council. We therefore incorporate those comments by reference.

The preferred alternative proposed in the Draft San Juan River Regional Coal EIS (hereafter Regional Coal EIS) is to issue competitive leases for twenty-four tracts involving some 1.3 billion tons of coal. In combination with the twenty-six preference right leases proposed for issuance under the "No Action" alternative, a total of 3.4 billion tons would be leased. That the Department of the Interior would propose coal development on such a scale, despite the lack of demand for the coal and the enormity of the resulting environmental consequences, is absolutely irresponsible. Indeed, the proposal

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clearly reveals the difference between the Department's current coal program and that established in 1979, and demonstrates that the Department is no longer committed to the objectives of the 1979 program as enumerated in 43 C.F.R. § 3420.0-2 (1979).

While the Regional Coal EIS is filled with data, maps and tables, it fails to convey the devastating impact that coal leasing on the scale proposed under the preferred alternative would have on the magnificent and as yet untrammelled scenic values of the San Juan region, not to mention the upheaval in lifestyle and culture it would impose on the thousands of Native Americans who reside in the area. While we could cover many pages criticizing the failure of the EIS to document the need for, and to specify the environmental consequences of, the preferred alternative, these issues are discussed extensively in the comments submitted by Citizens for a Better Environment, by the Environmental Defense Fund, and by the Rio Grande Chapter of the Sierra Club in conjunction with the Committee on Coal and the New Mexico Audubon Council. We therefore incorporate those comments by reference and will focus our own comments primarily on the treatment in the Regional Coal EIS of preference right lease applications (PRLAs).

Our concerns about the treatment of PRLAs can be summarized as follows. First, the Regional Coal EIS erroneously designates the issuance of twenty-six PRLAs as "No Action," and consequently fails to analyze the impacts of no development or to consider

alternatives to preference right lease issuance. Second, the EIS does not analyze site-specific impacts, and the environmental analysis that is included is insufficient and sometimes inaccurate. Third, the EIS omits any meaningful discussion of the unsuitability criteria. Fourth, the mitigation measures proposed in the EIS are ill-conceived and inadequate. Last, the EIS fails to develop protective lease stipulations for the PRLAs.

II. THE REGIONAL COAL EIS FAILS TO ANALYZE ALTERNATIVES TO PREFERENCE RIGHT LEASE ISSUANCE OR THE IMPACTS OF NO ACTION.

The Regional Coal EIS purports to analyze the impacts of five alternative courses of action, including a "No Action" alternative. On inspection, however, the "No Action" alternative contemplates extensive action on the part of the Bureau of Land Management (BLM), namely the issuance of twenty-six PRLAs.^{1/} The inclusion of the PRLAs under the "No Action" alternative is highly inappropriate and misleading. Moreover, this treatment of the "No Action" alternative has resulted in the failure of the EIS: 1) to analyze alternatives to the issuance of the preference right leases, and 2) to describe truly the impacts of no action.

It is difficult for us to believe that the BLM actually considers that issuing the 26 PRLAs constitutes "no action." We certainly do not share that view. Processing the PRLAs, which

^{1/} As we demonstrate in Part III of these comments, the analysis of the environmental consequences of issuing the PRLAs is wholly inadequate.

cover more than 75,000 acres, entails considerable activity on the part of the BLM. For example, the BLM must: review the applicant's initial showing, conduct an assessment of the environmental consequences of a lease's development, develop mitigation measures and lease terms for each specific tract, and determine whether an applicant has commercial quantities once these lease terms are incorporated into his final showing. While we recognize that, under present law, the BLM does not have the discretion to reject a PRLA if the applicant has demonstrated commercial quantities, the processing and issuance of a PRLA nevertheless do constitute BLM "action."

Indeed, the Decision Record for the Final Environmental Assessment for Coal Preference Right Leasing New Mexico (March 10, 1983) indicates that the BLM not only understands that issuance of these leases constitutes a major action on its part, but that the action is one which would have a significant effect on the quality of the human environment and therefore necessitates preparation of an environmental impact statement. The BLM has not, as yet, prepared an EIS on issuance of the PRLAs. Their treatment in the Regional Coal EIS certainly does not satisfy the requirements of NEPA, for a variety of reasons described below and throughout these comments. The BLM must prepare an adequate EIS on the PRLAs before any of the leases may be issued.

The Regional Coal EIS treats issuance of the PRLAs as no

action. p. viii. The first consequence of this treatment is that the EIS fails to consider alternatives to issuance of the preference right leases (PRLs). We are frankly shocked. This omission is a clear violation of the District Court decision in NRDC v. Berkland, 458 F.Supp. 925 (D.D.C. 1978), *aff'd*, 609 F.2d 553 (1979), which states explicitly that an EIS on PRLAs must examine three alternative courses of action:

"First, [the Secretary] must determine whether to initiate an exchange of lands for a mineral lease of comparable value or for coal bidding rights. Second, as discussed earlier, he is required by NEPA to protect against irreparable environmental damage by the determination of lease terms.... Third, if the permittee will not exchange lands and the cost of compliance with the lease terms does not defeat his showing of commercial quantities, the Secretary still retains the option of withdrawing the public lands or recommending to Congress that the preference lease right be cancelled upon payment of just compensation." Berkland at 938.

The Regional Coal EIS completely ignores this direction. Given the critical environmental and cultural significance of the areas involved, the failure to consider alternatives to issuance of the PRLs represents a fatal flaw in this EIS.

Another serious consequence of inclusion of the PRLAs under the "No Action" alternative is that the EIS fails to provide an analysis of the impacts of no development. This omission constitutes a clear violation of the Council on Environmental Quality's regulations for implementation of NEPA, which require that an EIS "[i]nclude the alternative of no action" in its

analysis of environmental impacts. 40 C.F.R. § 1502.14(d). To satisfy this requirement, the EIS must analyze the alternative of abandoning the proposed action entirely. See, e.g., NRDC v. Morton, 458 F.2d 827, 833 (D.C. Cir. 1972). Indeed, an analysis of the effects of no action is required even if an agency is legally required to take a certain action:

"Accordingly, the regulations require the analysis of the no action alternative even if the agency is under a court order or legislative command to act." 46 Fed. Reg. 18027, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Regulations."

The failure of the EIS to evaluate the impacts of no development means that it has not provided a baseline for evaluating the impacts of issuing the preference right or competitive leases. It is to provide just such a comparison that discussion of a no action alternative is required in an EIS:

"This analysis provides a benchmark, enabling decisionmakers to compare the magnitude of environmental effects of the action alternatives." Id. (Emphasis added.)

Discussion of the case in which the preference right leases are not issued is particularly important for the San Juan River Region because most of the region has not yet been substantially affected by coal development. Thus, issuance and development of the preference right leases would have a dramatic impact on the largely natural character of the San Juan River Region. Nowhere in the Regional Coal EIS is this impact acknowledged.

The BLM has clearly failed in its statutory obligation to analyze the impacts of the true no action alternative in the Regional Coal EIS. Inclusion of the impacts of PRLA issuance under the heading of "No Action" not only fails to meet this obligation, but also implies incorrectly that the impacts of PRLA development on the San Juan River region will be inconsequential.

III. THE EIS FAILS TO ASSESS ADEQUATELY THE IMPACTS OF PRLA ISSUANCE.

As discussed above, the Regional Coal EIS claims to analyze the impacts of PRLA development under the "No Action" alternative. While the analysis does reveal that the impacts of PRLA development would be substantial, it is inadequate in two major respects. First, the EIS provides no discussion whatsoever of site-specific impacts. Second, the general discussion that is provided is vague, superficial and, in some instances, inaccurate. As a result of these deficiencies, the EIS does not provide the Secretary with the type of information he needs to decide whether to issue each PRLA, and if so, under what conditions.

A. The EIS Does Not Analyze Site-Specific Impacts.

As the District Court found in Berklund, "NEPA requires the Secretary to determine particularized lease terms for land reclamation, air, water and wildlife protection, specifying if necessary, areas which cannot be mined." Berklund at 936-37. In other words, an EIS on PRLAs, to be adequate, must evaluate, for

each PRLA, whether the lease is suitable for issuances and, if so, the stipulation that should accompany the lease. Because the Regional Coal EIS contains no site-specific information, it is eminently useless for that purpose.

The Regional Coal EIS provides neither a description of the individual PRLA tracts, nor any analysis of the impacts of their development. Apparently this failure is due to an information vacuum. In the case of surface water impacts, the EIS admits outright that,

"The specific impacts on surface-water resources for an individual coal tract cannot be adequately evaluated given the existing information...." p. 3-61.

However, because this information is "essential to a reasoned choice among alternatives ... and the overall costs of obtaining it are not exorbitant," the BLM is required to include it in the EIS itself. 40 C.F.R. § 1502.22(a) (1982).

The Regional Coal EIS also evidences a disturbing trend to postpone detailed analysis of impacts to the mine plan stage, as can be seen in the continuation of the sentence quoted above:

"... however, the impacts can and will be addressed on a site-by-site basis during the evaluation of the applicant's mining and reclamation plan and prior to the granting of a permit to the mine." Id.

This trend is evidenced in the proposed lease terms, which typically require the applicant to conduct studies rather than actually to mitigate impacts, an issue discussed further in

section IV of these comments.

Deferral of the environmental analysis to the mine plan stage is extremely poor policy, as the Department previously recognized in its 1979 program. Moreover, this approach plainly contradicts the BLM's obligations under NEPA. As the District Court stated in Berklund:

"[The] contention that NEPA will be best served by deferring an EIS to the mining plan approval stage conflicts sharply with NEPA's reasonable policy requiring an EIS prior to the 'irreversible and irretrievable commitment of resources.'" Berklund at 938-39.

The issuance of a PRLA constitutes just such a commitment, and an EIS, to be adequate, must include the information needed to decide whether the PRLs should issue.

Inclusion of site-specific environmental information is also essential to the development of lease terms, which play a critical role in the determination of whether an applicant has discovered commercial quantities of coal and is, accordingly, entitled to a lease:

"... the cost of compliance with these terms will decide whether the permittee meets the commercial quantities requirement...." Berklund at 936.

Because the Regional Coal EIS does not contain any site-specific information, it fails to provide the basis needed to develop the meaningful mitigation measures and lease terms required of the BLM. This failure is reflected in the mitigation measures proposed in the EIS, as we discuss in section IV of these comments.

B. The Impact Analysis Contained in the EIS is Inaccurate and Generally Insufficient.

The Regional Coal EIS purports to provide "additional" analysis of the environmental impacts for most of the resources above and beyond that included in the Environmental Assessment (EA) on these PRLAs. We agree that additional analysis is needed, because the EA is fundamentally inadequate. The EIS fails to meet the BLM's NEPA obligations, however, in its analysis of impacts on the following: wilderness, visual resources, reclamation, groundwater, surface water, air quality, transportation, and socioeconomic factors. The specific deficiencies in the analysis of each of these subjects are described below.

1. Wilderness. The description of wilderness values consists of one paragraph, which notes the existence of four Wilderness Study Areas in the region and refers the reader to the Draft Proposed Wilderness Study Areas EIS for further information about three of the areas. This treatment of the subject results in a total failure by the EIS to provide for the record any sense of the tremendously important wilderness values of these areas. It is therefore inadequate.

The EIS flouts the intent of NEPA by failing actually to describe the region's wilderness attributes. In the case of the three Wilderness Study Areas (WSAs) described in the Wilderness EIS, the Regional Coal EIS must contain at least a summary of the information found in the referenced document. 40 C.F.R.

§ 1502.21 (1982). This summary should, at a minimum, specify the acreage involved, discuss which PRLAs lie in which wilderness areas, and provide an informative discussion of the attributes of those areas that make up their wilderness values.

Second, the EIS does not even bother to describe the fourth Wilderness Study Area, despite the fact that it is not described in the referenced Wilderness EIS. Discussion of the Ignazio Chavez WSA is limited to the statement that it is being studied and has not yet been recommended for wilderness designation. Since this area is not included in the Wilderness EIS, the BLM has a clear obligation to describe it in Regional Coal EIS.

The third problem with the EIS's approach to the wilderness issue is that it completely ignores the wilderness values of the portions of the region not officially designated as WSAs. In particular, there is no discussion of the portion of the Bisti and De-na-zin Area of Critical Environmental Concern (ACEC) that is not included in the WSAs. Since the area surrounding the actual WSAs also has wilderness-related value, this fact should be acknowledged in the EIS.

The discussion of the impacts on wilderness if the PRLAs are issued is similarly brief and evasive. The EIS mentions that the impacts on the Bisti, De-na-zin and Ah-shi-sle-pah WSAs if they are not designated wilderness areas are described in the Draft Proposed Wilderness EIS, but inspection of that document reveals that impacts under the non-designation alternative are described

only in the most general of terms. For example, the Wilderness EIS fails even to mention that two of the three PRLA tracts located in the Ah-shi-sle-pah WSA would be surface mined if the leases were issued and this development were permitted.

The Regional Coal EIS acknowledges that surface mining of existing leases adjacent to the Bisti WSA "could disrupt the wilderness characteristics of naturalness and opportunities for solitude in this WSA." p. 3-14. It then mentions the activities typically associated with surface mining that "could" disrupt nearby wilderness. However, it does not indicate that several PRLA tracts -- likely to be surface mined -- also lie adjacent to several of the WSAs. (This fact springs forth only from careful comparison of Map B in the Wilderness EIS with Table 1-1 of the Regional Coal EIS.) Obviously, unmitigated development of these PRLAs would have significant impacts on the adjoining WSAs.

These and other impacts of PRLA development are not acknowledged in either the Regional Coal EIS or the Wilderness EIS, in violation of NEPA's requirements. In order to determine what mitigation measures should be included in the lease stipulations for the PRLAs within and adjacent to the WSAs, the EIS must contain detailed information about the likely impacts of their development. For example, what would be the frequency, timing and duration of blasting on these sites? How much of the WSAs would be affected? Would the mining activity be visible and/or audible from everywhere within the WSAs or just from

certain points within them? If the latter, which points? Would the activity be visible from a particularly attractive part of the WSA or rather from areas that are unlikely to be used by wilderness enthusiasts? The EIS fails to provide any information that would answer these important questions.

In addition to the inadequate description of impacts that will occur to the three major WSAs in the area, the EIS completely ignores the impacts to the Ignazio area and on the wilderness characteristics of that portion of the ACEC that has not been included in the WSAs. As pointed out above, these areas do have wilderness characteristics, and since they will not be protected by any type of wilderness protection stipulation, they may be greatly affected by coal development. These impacts must also be addressed in the EIS.

2. Visual resources. The discussion of the region's visual resources and the consequences to them from coal development is similarly deficient. The San Juan region possesses scenic resources of national significance. This fact is not conveyed in the statement that "[the Chaco Planning Unit] is characterized by low, rolling-grass sage terrain with interspersed badlands, mesas, and washes," nor in the admission that a few of the competitive coal tracts are "important from a scenic standpoint." p. 2-30. The statement that the WSAs are designated as Visual Resource Management (VRM) Class II Areas is equally uninformative, id., since the only description of VRM

Class II is that it is a BLM "classification that allows for management activities that are not visually evident." p. GL-7.^{2/}

The Regional Coal EIS must recognize explicitly that many of the lands under PRLAs offer tremendous visual values, and must describe those values in meaningful language. Sierra magazine recently described the Bisti badlands, for example, as "an area of fantastic eroded shapes, some resembling giant mushrooms because the supporting rock eroded faster than the caprock, of multi-colored layers of rock...." Sierra, October 1982, p. 61.

The discussion of the impacts of PRLA development on the scenic resources of this region is also less than enlightening: it consists only of general statements that surface facilities "could" disrupt the topography or scenic features of the area. p. 3-14. Again, such treatment is plainly inadequate. The decisionmaker is given no indication of the nature, number or location of facilities and roads, and thus cannot ascertain with any degree of specificity how such development will affect the scenic resources of the area. Nor can he attempt to develop mitigation measures for the resulting impacts.

^{2/}The use of similar language to describe wilderness by the Forest Service in an EIS on its Roadless Area Review and Evaluation (RARE II) was heartily criticized by a federal court, which speculated that this type of description would reduce the Grand Canyon to: "'Canyon with river, little vegetation.'" California v. Bergland, 483 F. Supp. 465, 486 n. 22 (E.D. Cal. 1980).

3. Reclamation. The court in Berklund plainly expects the BLM to evaluate reclamation potential in considering whether to issue a PRL. For example, the opinion notes::

"Reclamation of an arid area ... might not be feasible under present technology. In such instance, the environmental damage which might occasion the Secretary to reject the lease [could be] proscribed under the performance standards of the lease." Berklund at 937.

However, the Regional Coal EIS contains virtually no information on the viability of reclamation, needed by the Secretary to comply with the District Court's order. To the extent that reclamation information is provided, it is misleading, if not patently inaccurate.

For example, the EIS flatly asserts that:

"Successful revegetation has occurred in the region at the San Juan, McKinley, and Navajo Mines with the aid of irrigation." p. 2-17

No support or citation is given for this assertion. Who has determined it to be successful? Based on what legal criteria? No reclamation bonds have been released at these mines under the criteria of the Surface Mining Control and Reclamation Act (SMCRA) because the minimum 10-year period of operator responsibility has not yet elapsed.

"Successful revegetation" is a term of art, specifically defined by SMCRA as:

"... a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of land to be affected and capable of self-regeneration and plant succession at least equal in extent of cover to the natural

vegetation of the area; except, that introduced species may be used in the revegetation process where desirable and necessary to achieve the approved postmining land use plan...." Public Law 95-87, § 515(b)(19).

SMCRA requires the operator to assume the responsibility for achieving successful revegetation,

"... in those areas or regions of the country where the annual average precipitation is twenty-six inches or less, then the operator's assumption of responsibility and liability will extend for a period of ten years after the last year of augmented seeding, fertilizing, irrigation, or other work." Id., § 515(b)(20).

Because revegetation as legally defined has not yet been shown successful at other mines in the area, the Regional Coal EIS must assess the probability of revegetation success on the PRLA areas. The EIS simply does not do this. Nor does it present sufficient information about the components of reclamation so that the reader could arrive at his/her own independent conclusions regarding reclaimability. The EIS is so deficient in this regard that it suggests that the BLM wishes to presume that reclamation will occur so that it may lease coal with a conscience untroubled by facts and proven conclusions. The components of reclamation about which information is insufficient or totally lacking are described below.

The EIS contains no specific soil distribution and soil chemistry information. Approximations of the acreage figures for each soil association listed on Table 2-6 are totally lacking. Sodium Absorption Ratios are not given for the soil associations.

The EIS states that reclamation may be enhanced "to a moderate level (or in some instances better) if soil characteristics and textures are changed" by mixing or layering types of soils under different circumstances. p. 2-15. No estimate is given as to the quantities involved, but they would appear to be very large. This is critical information for determining the technical feasibility of reclamation as well as its economic feasibility, and thus for making the commercial quantities determinations for the PRLAs. (It costs at least \$1 per cu. yd. to haul material at a minesite, according to Keith Kirk, Office of Surface Mining, Denver Technical Center, Feb. 25, 1983, verbal communication.)

No information is given on the conditions of present livestock use or of future livestock use on reclaimed sites. In order to determine reclamation success and impacts of the proposals for the post-mining land use of livestock grazing, information is needed on numbers, duration and seasons of grazing use in the pre-mining phase. BLM states that it "has no knowledge of actual livestock operators, livestock numbers, class of livestock, or range developments." p. 2-25. Why hasn't the BLM obtained this information from the Bureau of Indian Affairs? Nor does the statement address the impacts and mitigation measures if legally "successful reclamation" occurs but does not provide a level of livestock forage value that equals the pre-mining vegetation on the same acreage.

One of the most critical elements of successful reclamation is mitigation of impacts to the hydrologic regime and protection of the hydrologic balance, which is recognized in SMCRA. As will be addressed below in our discussion of water resource impacts, the EIS is practically silent on this issue.

In several sections the Regional Coal EIS states that revegetation can be accomplished and cites experience at other mines in the area, the Navajo, San Juan and McKinley mines. See, e.g., p. 2-17. This conclusion is not borne out by other analyses. For example, during its review of the Burnham Mine (Con Paso Project) application, the Office of Surface Mining (OSM) evaluated the revegetation at the above mentioned mines. It found that the experiences at these mines do not demonstrate that species diversity and plant cover have been achieved. Environmental Assessment for Surface Mining and Reclamation Plan, Burnham Mine, Aug. 27, 1979, pp. 34-36. OSM also noted the "lack of long-term data showing the survival of species without irrigation...." Memorandum to Assistant Secretary for Energy and Minerals from Director, OSM Region V, Sept. 4, 1979. Given the situation that well yields are "frequently small," p. 2-18, and that surface water occurs in "limited quantity," p. 2-49, it is not at all clear that there is sufficient water to support reclamation on the PRLA tracts. The Regional Coal EIS does not give a citation for the figures given for water use in the summary of impacts. p. 3-69. How were these obtained?

No analysis is included in the EIS of the potential for developing toxic layers in the plant-root zone. Also, there is no analysis of the potential effects of toxic mine wastes and spoils on ground and surface waters. Information is available from other mines in the region and should be utilized.

The factors for ranking the tracts listed in Table A-3-1 include "reclamation potential." p. A-49. However, nowhere in the rationales presented in Table A-3-2 does "reclamation potential" appear to have been considered in ranking the tracts.

In short, the Regional Coal EIS is sorely deficient in its treatment of reclamation. In light of the questions that have been raised about the viability of successful reclamation in this region, the BLM must devote considerably more resources to investigation of this subject before it can issue any PHLAs.

4. Groundwater. In an arid region such as San Juan, protection of groundwater resources is especially important. Unfortunately, the Regional Coal EIS does not provide enough information to ensure groundwater protection. The Regional Coal EIS indicates that mining of the PRLA tracts would be likely to effect local groundwater resources adversely, but does not identify the precise nature and extent of the impacts. The generalized information provided does not meet NEPA criteria. Nor does it provide the BLM with the data needed to develop protective stipulations for the PRLs.

The EIS offers virtually no quantitative information on

groundwater under existing conditions except the vague description that well yields are "frequently small." p. 2-18. The tables of aquifer characteristics (Tables 2-7 and 2-8) give such broad ranges for most characteristics throughout the region, that no useful conclusions can be reached. The 1976 EMRIA Report is given as a source for the information in Table 2-8 regarding the physical properties and chemical quality of major aquifers, but our review of that publication indicates that it does not contain the information in the Table in any identifiable form.^{3/}

The Regional Coal EIS indicates that disruption of aquifers by surface mining will reduce the recharge rate, but it gives no estimate of the magnitude of the rate's reduction nor of the long-term effect on the size of the aquifer. It also implies that the effect would not be serious because "this impact would be very localized." p. 3-8. In fact, however, many Navahos use shallow groundwater in washes via hand-dug wells, and any change in the recharge rate could potentially diminish their usage. Moreover, even if the effect on the recharge rate in a particular area is considered to be "localized," the cumulative effect on the aquifer could be significant and should be studied before disruptive mining is permitted.

^{3/}Table F-4 of the 1976 report does contain chemical analyses of groundwaters for six geologic formations at the Bisti Site. However, the values for the different formations are not distinguished in F-4, and Table 2-8 contains values for 16 formations.

The EIS also indicates that the regional sandstone aquifers would be partially destroyed, and that well yields would be affected correspondingly. However, it does not specify which existing wells would be affected or how extensive the damage to the aquifers would be. It states that water yields would decrease if dewatering of mines were required, but does not indicate which mines are likely to require dewatering or how many wells now exist at the sites of such mines. The Regional Coal EIS purports to project aquifer drawdowns in Table 3-4 and Plates 1 and 2, but does not indicate the basis for the projection or the reliability of the model used to make it. These figures do suggest, however, that the cumulative groundwater impacts would exceed SMCRA limitations, a possibility that should be acknowledged explicitly in the EIS.

SMCRA mandates that protection of the hydrologic balance be assessed in the permit application for all existing and anticipated mines, and that all mines be designed to prevent material damage to the hydrologic balance outside the permit area (§§ 507(b) and 510(b)(3)). The Regional Coal EIS implies, erroneously, that hydrologic impacts will simply be addressed on a site-by-site basis during evaluation of the mine permit application, rather than cumulatively as the law requires.

The Regional Coal EIS's discussion of impacts on groundwater quality is very sketchy and relies primarily on a study performed in Montana to make such findings as:

"Dissolved-solids concentrations in water from alluvium are greater downgradient from the mining area than they are upgradient." p. 3-12.

We strongly agree with the BLM that "a similar study should be conducted in the San Juan Basin," id., but we submit that this study must occur before any preference right leases are issued so that appropriate protective stipulations may be attached to the leases.

Yet another failing of the groundwater analysis is that it provides no estimate of the quantitative impact on local or regional groundwater supplies of dewatering or other mining activities. Indeed, the only indication provided that mining will actually use groundwater supplies is the statement that,

"At each mine, 'deep' wells would be drilled and developed for short-term use for mining operations." p. 3-58.

How does the BLM know that these wells would be drilled?

5. Surface water. While the EIS alludes to the fact that groundwater and surface water impacts are related, their relationship is somewhat obscured by the awkward separation of the discussions of the two water resources. The analysis of surface water impacts is as deficient as the analysis of groundwater impacts.

As with the groundwater section, the Regional Coal EIS provides no site-specific discussion of the existing resources or the consequences to them. Indeed, the EIS does not even convey the fact that surface water resources in the San Juan River region are extremely scarce.

The description of surface water resources and quality is so general as to be virtually useless. No description of existing uses is provided. Table 2-16 indicates the annual rights and existing withdrawals from the San Juan and Animas Rivers, but does not provide the reader with the salient information that San Juan surface waters are already entirely appropriated for existing uses. In light of the fact that the EIS estimates that at least 12,850 acre-feet of water per year would be required for PRLA mining, p. 1-4, it must analyze whether any water is available for that purpose and, if so, what will be the impacts of that water demand on existing uses.

The discussion of environmental consequences admits that drainage patterns will be altered and that stock tanks and playa lakes will be destroyed, but doesn't specify where. It suggests that groundwater withdrawals from mines could cause a decrease in the San Juan River flow, but makes no attempt to quantify the potential reduction. It reports that one study estimated that surface mining and reclamation at one site in the Chaco River drainage would result in 30 to 70 percent reductions in peak streamflow and runoff volumes, but fails to discuss the implication of this study for cumulative surface water impacts. And, as in the case of groundwater, no estimate is provided of direct surface withdrawals that will be required for PRLA development.

In short, the surface water discussion strongly hints that

therefore are assumed to lie beyond the range of TSP? If the latter, the basis for the questionable assumption that TSP has a range of only 20 kilometers (12 miles) should be provided. The EIS must also demonstrate that all potential PSD violations have actually been analyzed, and not just assumed out of existence.

The EIS also appears to be overly sanguine as to the likelihood of violations of TSP emission standards. While Table 3-1 suggests that PRLA development will not result in a TSP violation, the EIS admits elsewhere that,

"Some short periods of local violations of air quality standards would result from mining associated activities if unfavorable meteorological conditions persist for several hours." p. 3-54.

The EIS must identify the meteorological conditions that would produce these results, along with the probability, frequency and location of their occurrence, and must specify which standards might be violated.

7. Socioeconomic impacts. The Regional Coal EIS grossly underestimates the socioeconomic consequences of PRLA development. As will be discussed below, the EIS contains no estimate of the impact of coal development on livestock grazing. Moreover, the EIS has identified only a small fraction of the Navaho families living on the PRLA lands and likely to be harmed by coal development thereon. See Testimony of Klara Kelley, Hearings on the San Juan Action Plan EIS, Albuquerque, January 14, 1983.

the impacts of PRLA development would be severe, but it is sorely lacking in any meaningful analysis of precisely what those impacts will be. This lack is a fundamental inadequacy of the Regional Coal EIS.

6. Air quality. The analysis of air quality impacts is somewhat more thorough than that of water quality impacts. Nonetheless, it leaves a number of important questions unanswered.

First, the Regional Coal EIS indicates that a site-specific analysis was performed to determine the air quality impacts of mining on specific tracts, and that the analysis indicated three areas with potential problems. Unfortunately, it does not identify those areas. It would be very helpful to know which of the PRLAs have been so identified.

Second, the EIS implies that the Prevention of Significant Deterioration (PSD) limitations would not be violated, when such a conclusion is in fact quite questionable. The statement in the EIS that total suspended particulates (TSP) from PRLA development would not exceed PSD limitations, p. 3-5, is deleted without explanation by the errata sheet. Does this mean that some PSD limitations, such as Class II increments, would be violated by PRLA development? If yes, the EIS should so state.

Or does it mean that the potential for PSD violations has simply not been analyzed, as is implied by the statement on p. 2-2 that the San Pedro Parks Wilderness Area and the Mesa Verde National Park (both Class I) are "outside of the EIS region" and

8. Transportation. The EIS assumes that construction of the Star Lake Railroad will allow coal from the PRLAs to be transported by rail. In light of the recent decision in New Mexico Ranchers Association, et al., v. Interstate Commerce Commission et al., this assumption appears questionable. The EIS must analyze the impacts of coal transport assuming that only haul roads will be available. This is particularly important for the air quality analysis, since the EIS indicates that, even without the haul roads, PRLA development would come close to exceeding TSP limitations. Analysis of haul roads is also important from a cost standpoint, as the requirement to build haul roads could affect the economic viability of PRLA development and hence the commercial quantities determination.

C. The EIS Summarizes Impacts on Three Resources From an Inadequate Environmental Assessment.

The EIS relies on a summary of the inadequate Environmental Assessment for Coal Preference Right Leasing New Mexico (EA) for its discussion of three critical resources, the cultural resources, the soils and livestock grazing. The inadequacies of the EA's treatment of these resources are enumerated below.

Numerous comments have identified the deficiencies of the draft EA in its treatment of cultural resources. In some cases, these deficiencies were discussed, but in no case cured, in the final EA. The EA's discussion of impacts on cultural resources is inadequate on two grounds. First, the EA shares with the EIS, discussed in part A above, the lack of any site-specific

analysis. Thus, the EA fails to describe with any degree of specificity the cultural sites that will be harmed by coal mining in the PRLA area. Second, it admittedly covers only a minute portion of the extensive cultural resources in the area. Therefore, it fails to provide any meaningful basis for evaluating the impacts to cultural resources that will result from PRLA development, let alone to provide the rigorous impact analysis required by NEPA. Given the great archaeological significance of these resources, this omission is simply not acceptable.

The EA's description of existing cultural resources in the PRLA area fails to provide any sense of their magnitude or archaeological significance. While there is some discussion of the "Chacoan Phenomenon," the EA contains virtually no description of the archaeological sites remaining from the various cultures that have been located in the area. The sites are discussed almost exclusively in terms of number and size, with little or no information provided as to their contents. Two of the most informative statements are that, "Lithic sites contain stone tools or weapons," p. 2-46 and that, "The proposed Pierre's Ruin Archaeological District includes three town structures, nine villages, and nine limited-use areas...." p. 2-47.

The BLM may claim that these deficiencies are related to the fact that,

"Despite the efforts that the BLM has made to date, the full extent of the cultural resources in the PRLA Area is not known because of the large amount of land that is involved and the lack of intensive inventory data." p. 2-41.

However, the environmental analysis of cultural impacts cannot be considered adequate until the additional data are obtained. See 40 C.F.R. § 1502.22 (1982). As was pointed out by the New Mexico Historic Preservation Bureau in its comments on the draft EA,

"In order to be adequate in this respect, the environmental assessment would have to reflect an inventory of structural sites, and would also have to reflect their eligibility to the National Register of Historic Sites." p.17, Final EA.

While the Cultural Resources Addendum in the final EA attempts to address this problem by reporting the results of a screening of known sites for National Register eligibility, it does not reflect any new information obtained from actual inventory work. The computer prediction model relied upon in the EIS does not obviate the need for further field work before the PRLs are issued.

The lack of baseline data is also undoubtedly responsible in part for the EA's inadequate analysis of the impacts of coal development on the area's cultural resources. But, the problem also appears to be related to the BLM's unwillingness to face up to the actual consequences of issuing the preference right leases. This attitude can be seen in the opening statement in the section on cultural resource impacts:

"The Proposed Action would result in increased scientific knowledge about past cultures in the PRLA Area." p. 3-20.

This statement relies on the questionable assumption that the area would be more thoroughly researched in the brief period before mining is begun than would occur over a period of numerous years in the absence of mining. It also assumes that excavation, under such pre-mining circumstances, is a desirable method of research, a view not held universally by archaeologists. Even if the statement were true, however, it provides a misleading indication of the true impacts of coal development on cultural resources and should not be the introductory sentence in this section.

The BLM's unwillingness to recognize the consequences of lease issuance is further evidenced in the euphemistic statement that,

"Based on presently available information, it is unlikely that the integrity of any site on the PRLA Area can be maintained under the Proposed Action without continual on-site monitoring." p.3-21.

We wonder what the BLM means here by "continual on-site monitoring." Our view of its usefulness of is addressed in our discussion of mitigation measures in section IV. In a similar vein, the EA states that,

"Gravesites in stripping areas would be disturbed if they are not identified before mining and mitigated by reburial elsewhere." Id.

But no indication is given of the extent to which such sites are likely to be identified and relocated. The EA also incorrectly claims that no data are available to assess the impact of grave disturbance or relocation. See Comments of the Bureau on Indian Affairs on the Draft EA, FEA, p.73.

Only in the following sentence does the EA face up to the impact of PRLA development on cultural resources: "All sites in stripping areas would probably be destroyed." Id. Unfortunately, this understatement provides no indication of what sites are located in potential stripping areas. Nor does the rest of the EA.

The BLM appears to be equally unwilling to admit the consequences of PRLA development to the region's soils. The EA's discussion of this subject is wholly inadequate, suggesting that mitigation measures and reclamation techniques would minimize impacts and even "allow potential productivity to approximate that which existed prior to strip mining." Draft EA, p. 3-6. This glib view of the potential for successful reclamation in the area is not supported, however, by the EA's discussion of that subject, a major deficiency also found in the EIS and addressed elsewhere in these comments.

The EA does admit that soil structure would be destroyed by surface mining, and that erosion and sediment yield in the area would increase considerably as a result of coal development. The significance of this conclusion is obscure, however, since the EA

gives no sense of the relative magnitude of this increase.

The EA's discussion of impacts on livestock grazing is also inadequate due to its superficiality. While the EA reports that 2,032 Animal Unit Months would be lost due to surface mining, Draft EA, p. 3-15, it fails to analyze the socioeconomic consequences of this loss. Since livestock grazing supports a subsistence living for numerous people in that area, this omission is inexcusable, as was pointed out in several of the comments on the draft EA. The BLM's response that these impacts cannot be analyzed until the mine plan stage is absurd and legally insupportable, as discussed in part A above.

D. The EIS Lacks Meaningful Analysis of the Unsuitability Criteria.

The Regional Coal EIS, apparently, recognizes that the unsuitability criteria must be applied to PRLAs. We understand from the exactly three pages of discussion of the unsuitability criteria in the EIS that they have been applied to the PRLAs. Unfortunately, the EIS achieves this economy of space by the omission of any explanation or description of the unsuitability criteria themselves. Instead, the reader is referred to Title 43 C.F.R. § 3461.1 for a listing of the criteria. As a result of this cursory treatment, the EIS fails to demonstrate that the unsuitability criteria have been applied correctly. Since this information is needed for the establishment of lease terms, its omission constitutes a critical deficiency of the EIS.

The Regional Coal EIS does indicate that several errors in applying these criteria did occur, however. First, the EIS indicates that criterion number 7 has not yet actually been applied. Indeed, it cannot yet have been applied, since the BLM has not yet properly inventoried the resources, as discussed above. Given the known value of the cultural resources in the PRLA areas, the BLM must itself conduct an inventory before the unsuitability determination can be made. The approach it has chosen instead, declaration of the area as suitable pending an inventory by the applicant, makes a travesty of the unsuitability screening process as well as any pre-inventory commercial quantities determinations.

Second, the EIS concludes that, because the treadway for the Continental Divide National Scenic Trail has not yet been established, criterion number 1 does not apply. Such a conclusion is clearly at odds with 43 C.F.R. § 3461.1(a)(3) (1982), which states:

"The application of the portion of this criterion applying to land proposed for inclusion in the listed systems does not apply to lands to which substantial legal and financial commitments were made prior to January 4, 1977..." (emphasis added.)

This language demonstrates that the criterion must be applied to all areas where the treadway is likely to be sited, unless the BLM can demonstrate that the applicant has made substantial legal

and financial commitments.^{4/}

Finally, the EIS claims that tract-specific stipulations have been developed for the PRLAs as a result of the unsuitability criteria application, but the proposed stipulations are presented in a form of general use. Indeed, Appendix A-6 gives no indication whatsoever of which tracts would be subject to which stipulations. Given the general nature of the form, which has been clearly designed for use in connection with all the PRLAs, the stipulations can hardly be considered tract-specific. This failure is discussed at greater length in section V below.

IV. THE EIS DOES NOT CONTAIN ADEQUATE MITIGATION MEASURES FOR THE PRLAs.

As a general matter, NEPA requires that an EIS contain effective mitigation measures so that the environmental impacts of a government action will be minimized. In the case of PRLAs, detailed mitigation measures are required in addition for the more specific purpose of providing a basis for estimating costs of compliance and making the commercial quantities determination, as discussed in section III above. The mitigation measures proposed in the Regional Coal EIS are grossly insufficient, both to minimize impacts and to provide a basis on which to estimate the costs of compliance.

^{4/}The Department has previously -- and properly -- recognized that a PRLA, standing alone, does not constitute "substantial legal and financial commitment." See, e.g., 44 Fed. Reg. at 42598-42599 (July 19, 1979).

The EIS has identified a number of significant impacts for which no mitigation measures are recommended at all. These include reclamation of surface mined lands, water impacts, and secondary impacts on wilderness and recreation values. In light of the questions raised in section III above about the reclaimability of lands in the San Juan region, the EIS must identify those regions where reclamation is likely to be unsuccessful so that stipulations against surface mining may be imposed on PRLAs in those areas. Where reclamation is judged to be feasible, the EIS must specify what remedial measures will be required to ensure that reclamation will occur.

In the case of mitigation measures for surface water impacts, the only statement made by the EIS is the following:

"Strict compliance with applicable State and Federal regulations should obviate the need for any additional mitigating measures." p. 3-63.

At a minimum, the EIS must identify what measures are required by existing law so that the costs of compliance therewith may be estimated. It must also analyze whether existing law will effectively mitigate all impacts, or whether additional measures are needed. For example, the BLM should require the operator to provide replacement water for existing users during and after mining operations. The EIS also implies that off-site material damage may occur to surface and groundwater quality and quantity (p. 3-61, 62, p. 3-9-12, and plates 1 and 2), yet no mitigating measures are offered for these impacts.

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To the extent that the EIS does recommend mitigation measures, they are so patently ineffective that they raise serious questions as to whether the BLM made a good faith effort to develop them. This is demonstrated by the following review of the proposed measures.

The measures proposed to mitigate air quality impacts are meaningless. Only two measures are proposed. The first is that:

"Potential violations would be reduced by changing the configuration of the pit area and mining facilities so they are not next to the boundary and downwind of the worst-case meteorological conditions." p. 3-50.

Since the worst-case meteorological conditions are not identified in the EIS, this measure is not particularly enlightening. What are the potential violations? Which PRLAs will be affected by this measure and what will the changed configuration cost? Who will make the determination and when?

The second air quality measure is the self-evident statement that:

"Emissions (TSP) would be reduced by decreasing the amount of coal mined and the acres disturbed per year." Id.

Does this statement imply a willingness by the BLM to impose such a restriction on PRLA development? When would that decision be reached, and how would it affect the commercial viability of the affected PRLAs?

The EIS establishes a water quality criterion for water to be used in reclamation, but does not recommend measures to protect

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the quality or quantity of groundwater. Nor is any measure recommended to protect the integrity of the region's hydrological system.

The measure proposed to mitigate impacts on livestock grazing states that assistance would be given to residents in relocating their herds, if necessary, a solution which ignores the extremely limited availability of lands for relocation. Undoubtedly, some kind of economic restitution would be required. The EIS should evaluate whether relocation is a viable solution, and if not recommend an alternative form of compensation.

Mitigation measures proposed for visual resources, wilderness and recreation have no force:

"All areas of surface disturbance (particularly severe disturbance) would be reclaimed to a scenic quality eligible for their pre-mining VRM class or better." p. 3-51.

"Reclamation would also be done in a manner so as to keep the sight of the incongruous terrain at a minimum from inside the WSA." Id.

Since we have already established the difficulties of reclamation, these mitigation proposals give us no great cause for hope. In the case of recreation, the proposal is to remove potential recreators from the disturbed areas:

"If it appears that the CDNST would be routed through or next to [certain] tracts, provisions would be made to protect or temporarily relocate actual trail location and the safety of hikers." Id.

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It is inconceivable that such a measure is considered mitigation.

Mitigation measures proposed for paleontology and cultural resources consist primarily of further study and monitoring. In the case of paleontology, the EIS admits that, "the effectiveness of mitigation is difficult to assess." p. 3-50. The only specific recommendations for protection of cultural resources are that no surface-disturbing activities be conducted within Pierre's Ruin Community and that a fence be constructed around the area. For the rest of the San Juan region, the only protection afforded would be under the auspices of a "surveillance program" conducted by BLM archaeologists. p. 3-51

Further study, monitoring or surveillance may reveal potential impacts, but do not in themselves mitigate impacts. The EIS offers no mechanism for moving from studying the problems to solving them. The Berklund decision requires the BLM to propose solutions. If the BLM cannot, or will not, obtain the information needed to develop specific mitigation measures, then it has insufficient information to decide whether to issue these PRLs.

If the EIS had analyzed the effectiveness of the proposed mitigation measures, as it is required to do under NEPA, the analysis would undoubtedly have disclosed that few, if any of the proposed measures fulfill the purpose for which they are allegedly intended. They certainly are not in any form that

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could serve as an adequate basis for the commercial quantities determination.

V. THE EIS DOES NOT CONTAIN PROTECTIVE LEASE STIPULATIONS FOR THE PRLAS.

The District Court in Berklund ordered the Secretary to

"exercise his authority to safeguard society and prevent irreparable damage to the environment through a careful and complete formulation of lease terms." Berklund at 937 (emphasis added).

These lease terms must be included in the EIS so that their comprehensiveness and efficacy can be evaluated. The only lease terms included in the Regional Coal EIS, however, are proposed terms relating to the unsuitability criteria. No lease terms are proposed at all for impacts other than those protected by the unsuitability criteria, and those pertaining to the unsuitability criteria are generic only.

The "tract-specific" stipulations allegedly developed as a result of the unsuitability criteria application are presented in an appendix which consists of nothing more than a form letter for the request for final showing on an unidentified PRLA. The form letter lists all the unsuitability criteria and makes provision for an indication of which of those criteria would be implicated by a particular lease, but it does not include the actual site-specific stipulations for affected tracts.

Because the ultimate lease terms relate to the environmental impact of each PRLA's development and to the commercial quantities determination, they must be included in the EIS. The

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generalized unsuitability stipulations in the EIS do not fulfill this obligation.

VI. CONCLUSION

The Regional Coal EIS is blatantly inadequate in its treatment of the PRLAs. It fails to consider alternatives to their issuance and to evaluate the site-specific impacts of their development. The analysis it does provide has numerous deficiencies. The unsuitability criteria are trivialized, and no effective mitigation measures or lease terms are recommended. In short, the Regional Coal EIS does not meet the BLM's obligations under NEPA, as set out in Berklund, for the processing of PRLAs. No PRL may be issued until these deficiencies are rectified.

The Pittsburg & Midway Coal Mining Co.

April 6, 1983

Mr. Charles W. Luscher
State Director
New Mexico State Office
Bureau of Land Management
P. O. Box 1449
Santa Fe, NM 87501

Dear Mr. Luscher:

Draft Environmental Impact Statement San Juan River Coal Region

Gulf Oil Corporation and The Pittsburg & Midway Coal Mining Co., a wholly owned subsidiary of Gulf, wish to take the opportunity presented by the Bureau of Land Management's request for comments on the San Juan Coal Region draft environmental impact statement to oppose the proposed coal exchange between the United States and the Santa Fe Railroad. The proposal, which is sketchily described on pages 1-22 of the draft, would purportedly be accomplished under authority of Section 206 of the Federal Land Policy and Management Act of 1976 (FLPMA).

The railroad's acquisition of federal coal, even though by an equal value exchange, is in contravention of Congressional intent as manifested in Section 2(c) of the Mineral Lands Leasing Act of 1920 which prohibits leasing of federal coal to railroads, and the Commodities Clause, which declares that it is unlawful for a "railroad company" to transport any commodity which it has manufactured, "mined" or produced, or "in which it may have an interest, direct or indirect". 34 Stat. 584 (1906); 49 U.S.C. Sec. 1(7).

The intent of Congress in this area is evidenced by the legislative history of Section 2(c) which stated that the purpose of that section was to "divorce [rail] transportation from production -- a necessity conceded by most students of the subject". H.R. Rep. 668, 63rd Cong. 2d Sess. (1914).

Should the exchange be consummated and the railroad obtain the federal coal this clear intent would be contravened as 001 (1) conveys federal coal to a railroad which (2) that railroad thereafter transports, and thus, (3) the railroad would be transporting and selling coal it has "mined."



Mr. Charles W. Luscher
April 6, 1983
Page Two

The exchange would have a significant anticompetitive effect. The railroad upon which most producers in the San Juan Coal Region depend for transportation of their coal would become a major competitor in the region with great advantages over other producers. Santa Fe would acquire federal coal without having any sunk costs to carry and without having to pay the 12 1/2% of value production royalty or fair market value bonus bid. Hence, Santa Fe would have a significant and unfair competitive advantage over other producers who must pay the royalty and bonus.

Moreover, this is a railroad whose rates are now largely uncontrolled since the passage of the Staggers Rail Act of 1980. The result would be to place other producers at the mercy of the railroad on freight rates while at the same time giving it an unfair advantage of lower production costs.

It was to avoid such a potentiality that Congress enacted Section 2(c) and the Commodities Clause. By the later enactment of Section 206 of FLPMA, Congress did not intend that what it had prescribed directly be accomplished indirectly. This will happen if BLM strains the authority of Section 206 to encompass the proposed exchange.

Very truly yours,

RMH:DMC:in

S F Coal Corporation



P. O. Box 1449
Santa Fe, NM 87501
A SANTA FE INDUSTRIES COMPANY

April 6, 1983

Mr. Richard T. Watts
U. S. Bureau of Land Management
Farmington Resource Area
P. O. Box 568
Farmington, New Mexico 87499

Dear Mr. Watts:

SF Coal Corporation (SFCC) offers the following general comments with regard to the draft San Juan River Regional Coal Environmental Impact Statement. Specific comments are contained in the enclosure.

SFCC is a subsidiary of Santa Fe Industries, Inc. We are currently actively engaged in developing the Lee Ranch Mine which is expected to see its first coal deliveries by October, 1984. At the present time about 100 persons are employed in construction activities, 80% of whom are from the Grants-Milan-San Mateo area. Our Lee Ranch Mine is permitted for production of 5 million tons of coal per year, at which level over 400 persons will be employed. The Lee Ranch Mine represents an initial capital investment by SFCC of nearly \$80 million, and by 1987, when production is expected to peak, wages and fringe benefits will total approximately \$15 million per year. The Lee Ranch Mine will provide the basis for long-term, stable employment in the greater Grants area.

The coal to be mined from Lee Ranch will be delivered primarily to electric utilities, largely situated in the southwestern United States. Within the past ten months SFCC has signed long-term contracts to deliver coal to Tucson Electric Power Corporation's Springville, Arizona plant, as well as to Plains Electric Generation and Transmission Cooperative's Escalante Generating Station near Prewitt, New Mexico. Other electric utilities from southern California to Texas are building or are planning to build coal-fired power plants by the early 1990's, and they are actively seeking suppliers at this very time for coal needed for their future electrical generation demands.

Because there is this legitimate and very real demand for coal by regional electric utilities, SFCC believes that the Department of the Interior must lease sufficient coal to meet the needs of national energy security and to

Mr. Richard T. Watts
April 6, 1983
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assure healthy competition in the coal industry. The leasing targets selected by the Secretary of the Interior are of critical importance to enable the coal industry to meet these needs. Without adequate reserves being made available for leasing, coal competition among mining companies will suffer, especially if new companies are prevented from entering the market by the holders of existing leases and PRLA's. The resultant lack of competition would carry over to reduce the number of supply options available to utilities seeking to buy coal and will, in the end, result in higher costs for the individual consumer, the end user of the electricity generated from this coal.

SFCC urges that all increments of new federal coal production not be consumed by existing leases and PRLA's. To do so would be anti-competitive and would favor old leases without acknowledging the environmental, economic, or social disruption in the area of these old leases or PRLA's that would make new leasing in new areas more desirable.

The Lee Ranch tracts are included in the Minimum Surface Owner Conflicts Alternative, but not in the Bypass Alternative. SFCC has protested this decision in writing to the Regional Coal Team. SFCC believes the Lee Ranch Middle and West tracts should be included in the Bypass Alternative because if the federal coal is not available when the private and state coal has been mined, it is likely the federal coal will be bypassed and never mined. Another alternative would be to include the Lee Ranch Middle and West tracts in an alternative which encompasses those coal tracts where environmental impacts would be substantially less than would be the case with other tracts. Presumably Lee Ranch West and Middle would be included in such an alternative.

Finally, SFCC believes that none of the above recommendations would even be necessary if the BLM used the market place to allocate coal resources, as recommended by the Justice Department in its 1980 Report on Competition in the Coal Industry. But since leasing on demand may not soon occur, we urge the BLM to carry forward for leasing the tracts identified in the Target Alternative. The BLM should also implement alternative methods, such as exchange, of making this coal otherwise available for mining, and for enhancing the value of identified lease tracts by converting them to single ownership units.

Very truly yours,

G. G. Byrns
G. G. Byrns
Manager-Governmental Affairs

GGB:gem
Enclosures

REGIONAL COOPERATION
SUPPORTS FOR THE SAN JUAN RIVER REGIONAL COAL
ENVIRONMENTAL IMPACT STATEMENT

- A. p. x
The first sentence on page x appears out of place and is not supported elsewhere in the EIS. The purpose of the EIS is not to engage in overall economic analysis on a tract by tract basis. Also, many factors affect the economic advantage or disadvantage a tract might have in addition to proximity to rail transportation. These factors include the many parameters of coal quality (BTU, sulfur, ash, and moisture content), the size of a deposit and recoverable tonnage, stripping ratios, title (including whether the lands are owned in single or mixed ownership), royalties and lease rentals, and reclamation and other environmental costs.
- B. "High Level Alternative", 2nd paragraph, 2nd sentence, p. 1-11
We question whether annual coal production would average 24 billion tons in the EIS region.
- C. FLPMA, p. 1-12
Under the summary of authorities granted by the Federal Land Policy and Management Act there should be added as item 5 the authority to exchange land or interests in land.
- D. Unsuitability Criteria, pp. 1-15, 3-38, A 13, 14, 15, 18
Under the discussion of unsuitability criterion #1 as it pertains to the Continental Divide National Scenic Trail (CDNST), the following points should be clarified. The management scenario which the CDNST Advisory Council has adopted provides that "CDNST may be routed through a variety of resource uses and activities and will not preclude resource management adjacent to the trail." Therefore, surface mining activities would not "disrupt" the trail location unless the trail was subsequently planned to go directly through the mine. In addition, the Fernandez Company Ltd. is on record as opposing construction of any portion of CDNST across their private property. Since such private lands are exempt from condemnation procedures it is unlikely that surface coal mining operations in the Lee Ranch and Divide areas would be adversely affected by CDNST, or vice versa.
- E. Time-Phased Plan of a Surface Mine, p. 1-16
Figure 1-2 shows a hypothetical mining sequence for a surface mine operation employing a dragline and in which large spoil piles are typical. A schematic sequence of a "truck and shovel" mining operation, such as that planned at the Lee Ranch Mine, should also be shown in the Final EIS. Among the more positive benefits of such an operation is the fact that there are no spoil piles, rather, the overburden is systematically replaced and leveled in the previous pit with no need of rehandling or waiting many months before beginning revegetation operations.

- F. Soils and Reclamation, p. 1-20
The concern over reclamation and revegetation is an issue that should be addressed on a case-by-case basis in connection with permitting of individual mines.
- G. Lifestyle Changes, p. 1-21
This summary should state that certain communities, such as Grants and Milan, are actively supporting nearby coal development as a means of diversifying an economic base that since the early 1950's has been almost wholly dependent on one industry - uranium.
- H. Interrelationships with Other Projects in the Region, p. 1-22
The brief discussion of the McKinley County coal exchange should show that Santa Fe Pacific Railroad Company, not Santa Fe Mining Company, has proposed this exchange. The summary should explain that as a result of the exchange, the federal government will have several blocks of federal coal available for leasing, including tracts for small business set-aside leasing.
- I. TABLE 1-7, p. 1-26
This table of impacts of the alternatives should make clear that the numbers used to show acres affected by mining are those over the estimated life of mines, and that not all of these acres will be disturbed at once or at the same time. Also, in predicting impacts, the language employed should make clear that these are estimated or predicted impacts, not ones that will definitely happen. The impacts on Social and Economic Conditions should include income derived from federal coal royalties and severance taxes.
- J. Water Resources, p. 1-33
This summary implies that there will be acid surface runoff from coal mining operations. The Lee Ranch Mine, as one of its conditions of operation, will produce no surface water discharges from disturbed or unreclaimed areas. Such runoffs, if any, will be contained within the permit area.
- K. Paleontology, p. 1-33
Throughout the EIS, statements are made that increased population and access will result in unauthorized collection and vandalism. Laws prohibiting these actions are deterrents. Greater enforcement activities and public education activities will help prevent vandalism and unauthorized collection. Before mining all areas would be inventoried for cultural resources and appropriate mitigation would be undertaken.

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- L. Vegetation, Livestock Grazing, and Livestock Impacts, p. 1-34
This summary implies that irrigation will be necessary for successful reclamation. Success with recent reclamation innovations, coupled with better soil conditions and higher rainfall amounts, indicates that irrigation, especially in regions of the southern San Juan Basin near the Continental Divide, is not a prerequisite to successful mined-land reclamation.
- M. Wildlife, p. 1-34
This summary indicates that surface mining would have no beneficial effect on wildlife. Yet successful reclamation at the San Juan Mine has shown that increased vegetative cover resulted in higher rodent, small mammal, and raptor populations. The 200-300 acres of winter range habitat that could be left for deer and elk is an insignificant and easily mitigated impact.
- N. Visual Resources, p. 1-35
The use of the word "would" implies that impacts will occur to the Continental Divide National Scenic Trail (CDNST). Since the CDNST is problematical at best, and since the Fernandez Company Ltd. is on record opposing any portion of the CDNST within the Lee Ranch, "would" should be replaced with "could." Refer to comment "D" above.
- O. Social and Economic Factors, p. 1-35, 36
What is a "semi-industrial setting?" What would this mean in terms of income levels, jobs, and increased social and cultural opportunities? Grants and Milan, like Farmington, have previously absorbed the effects of a boom industry (uranium) and already have the necessary infrastructure to handle coal development effects. This comment also applies to pages 2-40 and 3-21.
- P. Geologic Hazards, p. 2-3
The Ambrosia Lake Uranium District is 8 miles southwest of the Lee Ranch tracts. Any subsidence associated with underground uranium mining would have no surface effect beyond a few score feet from the center of any subsidence feature. It is misleading to imply subsidence could affect coal mining operations at Lee Ranch.
- Q. Operating Coal Mines, p. 2-7
This discussion should also reflect the current development underway at the Lee Ranch Mine, involving nearly \$80 million of capital investment. Construction began in September, 1982, and first coal deliveries will be shipped as early as October, 1984.
- R. Paleontology, Southern Area, p. 2-11
This section should be amended to reflect that a detailed paleontological inventory of the private and state lands within the Lee Ranch Mine permit area was conducted in 1980 (LeMone, Harris, et al.). It revealed no significant fossil material. This report is on file at the BLM's Albuquerque District Office.

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- S. Reclamation Potential, p. 2-15
The "low to moderate" reclamation potential suggested for the FIS region should be amended to show a "moderate to high" potential for the southern San Juan Basin, chiefly as a factor of higher rainfall and better soil conditions. Moreover, no active surface coal mine in the FIS region has been known to have failed at reclamation. From the soils descriptions given on pp. 2-17-2-18, one would be led to believe that there is no vegetative growth in the FIS region. Of course, this is not the case, yet none of the soils listed are considered suitable for reclamation by the BLM because of texture, organic matter, natural fertilizer or other parameters. Vegetation chosen by a mining operator, and approved by the regulatory authority, will be native to the region and/or adapted to the prevailing soil conditions.
- T. Livestock Grazing, p. 2-24
The FIS mistakenly implies that the only livestock grazing in the FIS region is done by Navajos. This is not true, and the FIS should reflect the extent of the Anglo and Hispanic ranching operations especially in the Lee Ranch and Divide areas.
- U. Table 2-9, p. 2-27
The data given for Lee Ranch West should show that 46 percent of the area of this tract has had an archaeological inventory during the period 1980-1982.
- V. Cultural Resources, p. 2-28
The fifth paragraph indicates that a suspected Chacoan Road passes through a portion of the Lee Ranch West tract. The FIS must show that further intensive research has revealed that no surface indication of this suspected road was ever found, and this road is no longer believed to have ever existed.
- W. Assumptions - Livestock Grazing and Vegetation, p. 3-3
We assume that the statement that mined lands will not be available for grazing during the entire life of a mine - even though a tract has been revegetated - is simply an assumption for planning purposes, and not a statement of what actually will happen.
- X. Assumptions - Social and Economic Factors, p. 3-4
Item 3 (severance tax) should indicate an effective 1982 New Mexico severance tax of 91.7¢/ton, which rises annually as a direct function of the Consumer Price Index Deflator published by the U. S. Department of Commerce.
- Y. Impacts - No Action Alternative - Air Quality, p. 3-5
Chaco Culture National Historical Park is not a Class I area under the Clean Air Act as the fifth full paragraph on this page represents. The park is a Class II area as indicated on page 6-3 (and implied from page 2-2).

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- Z. Social and Economic Factors, p. 3-18
The estimate that 50% of the hiring done by mines in the FIS region would be local is probably too low. Of the approximately 160 construction employees at the Lee Ranch Mine as of March 15, 1983, approximately 60% were local, and this percentage is expected to increase as overall employment rises. It is also somewhat of an understatement to assert that the FIS region now experiences "some unemployment." Published data for Cibola County shows February unemployment to be 23.5% (N.M. Employment Security Commission).
- AA. Soils, p. 3-29
The statement that surface mining operations would cause soil compaction is inaccurate. Scarification of the top lift of overburden, followed by application of topdressing and additional scarification and mixing to reduce the soil/overburden interface is a common practice that results in deeper and easier water and root penetration and enhanced vegetation establishment. Also make this correction to the discussion of soils on p. 3-36, 3-41, and 3-45.
- BB. Livestock Grazing, p. 3-29
It is inaccurate to imply that livestock grazing would be eliminated for a given area over the entire life of a mining operation. Once reclamation has been satisfactorily completed for a portion of a permit area to the standards of the regulatory authority for land release, livestock grazing could begin anew. Also make this correction to the discussion of livestock on pages 3-3, 3-37, 3-41, 3-46, and 3-56. No federal coal can be mined where the surface estate is privately owned absent surface owner consent. Surface owners who gave their consent to the BLM were required to specify the payments they would require for the temporary loss of use of the surface.
- CC. Cultural Resources, p. 3-37, 3-38
This section should reflect that the Chacoan Road originally thought to pass through the Lee Ranch West tract does not in fact exist at all. Also, make this correction to the discussion of cultural resources on p. 3-42 and 3-47. With respect to Anasazi "agricultural soils" on Lee Ranch East, West, and Middle and the Divide tracts, it should be noted that the surface is primarily privately owned and that the federal interest is accordingly limited. See comment GG below.
- DD. Recreation, p. 3-38
The discussion of the Continental Divide National Scenic Trail (CONST) fails to account for the fact that these tracts are on private land. Inasmuch as the Forest Service does not have condemnation authority for this trail, and the fact that the surface owner has officially notified the Forest Service of his opposition to having CONST cross his property, the "impact" suggested here is totally without a basis in fact. Also make this correction to the discussion of recreation on pages 3-15, 3-43, and 3-48, and A-13-15, A-18.

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- EE. American Indian Concerns, p. 3-39
The final FIS should reflect that no American Indians would be forced to relocate as a result of mining operations at Lee Ranch, nor is it expected that any sacred sites or gravesites would be disturbed.
- FF. Impacts - Target Alternative, p. 3-40
Is the lease sale still scheduled for September, 1983?
- GG. Cultural Resources, p. 3-42
The archaeological inventory performed by the School of American Research for the Lee Ranch Mine, and subsequent inventories, have revealed no Anasazi farming communities at the Ranch. It is improper for the Draft FIS to infer that the mere presence of a soil type is evidence of the presence of cultural resources in a site specific sense, although such an inference could be made on a regional basis. See also comment concerning p. 3-38.
- HH. Mitigating Measures-Cultural Resources, p. 3-50
This section should list the various laws, civil and criminal, prohibiting removal or destruction of cultural resources.
- II. No Action Alternative, p. 3-54
The statement concerning increased capital and operating expenditure requirements of local counties, school districts, and municipalities is too broad. Many communities, such as Grants, already have under-utilized capacity and could easily accommodate increased population growth.
- JJ. Minimum Surface Owner Conflicts Alternative, p. 3-56
This summary should show that no Navajo families would be relocated as a result of mining at Lee Ranch, nor will gravesites or sacred sites be disturbed.
- KK. Relationship Between Short-Term Use and Long-Term Productivity, No Action Alternative, p. 3-59
This discussion overlooks the fact that surface coal mining operations are predicated on long-term contracts which, by their nature, are not subject to the dislocations recently experienced in New Mexico's potash, copper, and uranium industries. In fact, only one of the surface coal mining operations in the San Juan Basin has experienced the layoffs and shutdowns that have plagued the other hard minerals producers in New Mexico over the past three years. The industry in the San Juan Basin has "held its own" during this time and has provided steady employment to over 2,000 highly paid New Mexicans.
- LL. Surface Water Quality, p. 3-63
This discussion of impacts of spills of liquid or solid waste material at mining operations fails to consider the mitigating measures that would be in effect as required by each mine's EPA-approved Spill Prevention Control and Countermeasure (SPCC) Plan.

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- MM. Cumulative Impact Summary - Recreation and Wilderness Resources, p. 3-40
Concern is expressed over potential loss or degradation of recreation and wilderness areas because of increased regional population and demand for use of the areas. Mitigation measures should be considered to protect these areas. However, increased use in and of itself is not an adverse impact. The more people that have the opportunity to see these areas the better; that is why they were set aside. These areas are not reserved for a privileged few.
- NN. Lee Ranch East Tract, p. A-34
It is stated that impact to the range resources would involve the "loss" of 255 AUM's/year of native forage. This statement should be amended to read that impact would involve "the temporary loss" of 255 AUM's per year of native forage.

It is also stated that surface mining activities could disrupt the Continental Divide National Scenic Trail. As stated earlier, since the Fernandez Company Ltd. has gone on record as opposing any portion of the CONST within the Lee Ranch, this statement should be removed.
- OO. Lee Ranch Middle Tract, p. A-14
The statement is made that surface mining operations at Lee Ranch would result in air quality which would exceed the annual New Mexico standard. The record should show that the Lee Ranch Mine currently has a PSD exemption from the Environmental Protection Agency which was granted to SF Coal Corporation because of the emissions control measures which SF Coal Corporation has committed to put into effect. The resulting air quality, therefore, will not exceed the New Mexico annual standards.
- PP. Lee Ranch Middle Tract, p. A-15
It is stated that upward leakage of water from the Point Lookout Sandstone may occur as a result of the coal mining operation. Such upward leakage is not expected to occur because the Point Lookout will be depressured in advance of the mining operation.
- QQ. Lee Ranch Middle Tract, p. A-15
The discussion refers to the "major aquifers tapped by wells in the area." This should be rewritten to read: "Major aquifers tapped by stock wells in the area." No domestic wells will be affected by this surface mining operation.
- RR. Lee Ranch Middle Tract, p. A-15
The discussion of paleontological resource impact refers to a site within Section 35, Township 15 North, Range 8 West. This parcel of land is not within the Lee Ranch Middle tract, but within Lee Ranch West. Moreover, this site is on private land and minerals was not located during the 1980 paleontological inventory conducted by Colene Harris, et al.
- SS. Lee Ranch Middle Tract, p. A-15
It is stated that impacts to the range resources would involve the loss of 1,606 AUM's/year of native forage. The Lee Ranch Mine is on private

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land and the surface owner has given consent to conduct the mining operation. Therefore, the surface owner obviously agrees to the temporary loss of this native forage. It should be emphasized that these range impacts will not be permanent impacts, and that with the reclamation success that is predicted for Lee Ranch, vegetative production will be higher than pre-mining. Finally, it is not expected that 1,606 AUM's/year will be temporarily lost because of mining operations. This figure should be 780 AUM's/year.

- TT. Lee Ranch Middle Tract, p. A-15
Again, the inference is made that mining at Lee Ranch could disrupt the Continental Divide National Scenic Trail (CDNST). Please refer to the earlier comments regarding the CDNST. It is extremely unlikely that this Trail, if it is ever built, would come anywhere near Lee Ranch East, Middle, West, or Divide.
- UU. Lee Ranch West Tract, A-16
The groundwater impact discussion, under Item b, indicates that coal deposits are also the major aquifers tapped by wells in the area. This should be rewritten to reflect that stock wells tap the coal deposits in the area. No domestic wells will be affected.
- VV. Lee Ranch West Tract, p. A-17
Under the discussion of cultural resource impacts it is indicated that several segments of the Chacoan Roadway System are within the Lee Ranch West tract. The record should show that additional archaeological inventory by the BLM of this area has revealed that there are in fact no segments of the Chacoan Roadway System within the Lee Ranch West tract or in any of the other Lee Ranch tracts.
- WW. Lee Ranch West Tract, p. A-17
The reference to impacts to the Continental Divide National Scenic Trail should be deleted for the reasons stated earlier.
- XX. Divide Tract, p. A-17
Under the discussion of groundwater impact, item b discusses water quality impacts in wells tapping the Dalton Sandstone Member. This statement should indicate that there are no domestic wells known to tap the Dalton in this area; all wells are stock wells.
- YY. Divide Tract, p. A-18
This discussion of impact to the Continental Divide National Scenic Trail should again reflect the statements made earlier regarding the CDNST.
- ZZ. p. A-54
The tract summary for Lee Ranch Middle indicates that this tract has a medium ranking for coal production. SF Coal believes that this Medium ranking should be upgraded to High for the following reasons. Part of the Lee Ranch Middle Tract is already permitted for coal mining as part of the Lee Ranch Mine. Surface owner consent already exists for mining all of this tract. The private coal within this tract is known to be of

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suitable quantity and quality to permit surface mining operations. And in addition, public attitudes toward mining on this tract within the Grants-Milan San Mateo area are highly favorable.

- AAA. Appendix A-6, p. A-65
The current state regulations governing coal surface mining in New Mexico are contained in New Mexico Coal. Surface Mining Commission Rule 80-1, not Rule 78-1.
- BBB. Appendix A-5, p. A-66
The discussion of the New Mexico Severance Tax Act should indicate that a tax of approximately 91.7¢ per ton was paid on steam coal in 1992, and that this severance tax rate increases annually based on the Consumer Price Index Deflators published annually by the U. S. Department of Commerce.
- CCC. Table 8-9, p. B-13
The figures given for "total surface area disturbed in acres" for the Lee Ranch East, Middle, West and Divide tracts do not agree with the figures given on pages A-13, A-14, A-15, and A-16 for these same tracts. This discrepancy should be corrected.

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SF COAL CORPORATION'S COMMENTS TO
THE "DRAFT SAN JUAN BASIN CUMULATIVE OVERVIEW"

- A. Map 2-4, page 2-13 should be amended to delete the Chacoan Road which is shown going to the southeast through the Lee Ranch West tract. Recent BLM research has indicated that this road does not in fact exist.
- B. Table 2-3, page 2-15
It is indicated that a Chacoan outlier exists on the Lee Ranch East tract, and reference is made to page 2-49 of the San Juan River Regional Coal Environmental Impact Statement. No Chacoan outlier is known on the Lee Ranch East tract, nor is reference made to this outlier on page 2-49 of the Draft EIS.
- C. Table 2-3, page 2-15
A Chacoan road is indicated to lie within a portion of the Lee Ranch Middle tract, and reference is made to page 2-51 of the San Juan River Regional Coal Environmental Impact Statement. The record must show that there is no record of a Chacoan road within the Lee Ranch Middle tract, nor is a reference made to one on page 2-51 of the Draft EIS.
- D. Table 2-3, page 2-15
Reference is made to a Chacoan outlier and Chacoan road within the Divide tracts, and reference is given to page 2-49 and page 2-51 of the Draft San Juan River Regional Coal EIS. No Chacoan outlier or road is known within the Divide tract, nor is reference made to these features on either page 2-49 or 2-51 of the Draft EIS.
- E. Map 2-5, page 2-22
The reference on this map to the Continental Divide National Scenic Trail is incorrect. No corridor for this trail has been selected, and it is premature to presume that a portion of this trail might even be within the San Juan Basin.
- F. Page 2-19
The Continental Divide National Scenic Trail is referred to as a regionally important visual resource. We would reiterate that the exact route for CDNST is not set and that the U. S. Forest Service does not intend for CDNST to become a barrier to resource development. Rather, CDNST is intended to enable the public to view the various resource uses of the Rocky Mountain area.
- G. Map 2-6, page 2-24
This map is inaccurate in that it shows the Lee Ranch Mine in the vicinity of Star Lake. This should be corrected so that the map will not be deficient.

NATIONAL
COAL
ASSOCIATION

COAL

CARL E. BAGGE
President
(202) 463-2647

April 7, 1983

Mr. Charles W. Luscher
State Director
New Mexico State Office
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87502

Dear Mr. Luscher:

The National Coal Association (NCA), representing the Nation's coal producers and coal sales companies, wishes to take the opportunity presented by the Department of the Interior's (DOI's) Bureau of Land Management's request for comments on the San Juan Coal Region draft environmental impact statement (DEIS) to appose, in the strongest possible terms, the coal exchange between the United States and the Santa Fe Mining Inc., an affiliate of the Atchison, Topeka and Santa Fe Railroad Co. (Santa Fe), described sketchily on page 1-22 of the DEIS.

The exchange according to the Santa Fe proposal would be allowed under Section 206 of the Federal Land Policy and Management Act of 1976.

REQUEST FOR ACTION

For all the reasons stated in the attached, the coal industry requests that the Department of the Interior change its policy of exchanging Federal coal lands with railroad affiliates and terminate actions on the three exchanges that are underway. The Department instead should encourage railroad affiliates to cooperate with the Department and non-railroad producers and surface owners to lease "checkerboard lands" to non-railroad producers to develop as expeditiously as possible.

NCA notes that DOI can make the choice not to proceed with the exchange at any time since exchanges under Section 206 are a discretionary act by the Department. Moreover, the threshold basis for such a decision is clear -- fee-for-fee exchanges with railroads (which allow them to block up "checkerboard land") clearly violate, at least, the spirit of Section 2(c) of the Mineral Leasing Act of 1920, as amended, (MLA). Section 2(c) provides that:

(N) No company or corporation operating a common-carrier railroad shall be given or hold a permit or lease under the provisions of this Act for any coal deposits except for its own use for railroad purposes....

1130 Seventeenth Street, N.W.
Washington, D.C. 20036-4677

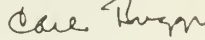
NATIONAL
COAL
ASSOCIATION

COAL

Within the context of the San Juan Coal Region EIS, NCA requests DOI in detail, to fully analyze all of the impacts on society and the environment of the Santa Fe exchange and not limit itself simply to a comparison of whether there are "any significant environmental differences between leasing as proposed and leasing under the exchange."⁶ Such a narrow approach would severely limit the scope of analysis of the EIS, severely limit the EIS's value as a decision document and probably bias the document in favor of the exchange - rendering the EIS result oriented rather than neutral.

A Dexed copy of this letter and the attachment will be delivered to your office before close of business, Friday, April 8, 1983 to meet the filing deadline. A clean copy will follow by mail. I am sorry for this inconvenience.

Sincerely,



Carl E. Bagge

* Draft Environmental Impact Statement, San Juan River Coal Regions, I-22.

1130 Seventeenth Street, N.W.
Washington, D.C. 20036 4577

NATIONAL COAL ASSOCIATION
COMMENTS OPPOSING THE PROPOSED COAL EXCHANGE
BETWEEN THE UNITED STATES AND SANTA FE MINING INC.,
AN AFFILIATE OF THE ATCHISON TOPEKA AND SANTA FE RAILROAD CO.
AS DISCUSSED IN THE SAN JUAN COAL REGION
DRAFT ENVIRONMENTAL IMPACT STATEMENT

I. INTRODUCTION

The National Coal Association (NCA), representing the Nation's coal producers and coal sales companies, wishes to take the opportunity presented by the Department of the Interior's (DOI's) Bureau of Land Management's request for comments on the San Juan Coal Region draft environmental impact statement (DEIS) to oppose, in the strongest possible terms, the proposed coal exchange between the United States and Santa Fe Mining Inc., an affiliate of the Atchison, Topeka and Santa Fe Railroad Co. (Santa Fe), described switchily on page I-22 of the DEIS.

The exchange according to the Santa Fe proposal would be allowed under Section 206 of the Federal Land Policy and Management Act of 1976 (FLPMA).

II. REQUEST FOR ACTION

For all the reasons stated in the attached, the coal industry requests that the Department of the Interior change its policy of exchanging Federal coal lands with railroad affiliates and terminate actions on the three exchanges that are under way. The Department instead should encourage railroad affiliates to cooperate with the Department and non-railroad producers and surface owners to lease "checkerboard lands" to non-railroad producers to develop as expeditiously as possible.

NCA notes that DOI can make the choice not to proceed with the exchange at any time since exchanges under Section 206 are a discretionary act by the Department. Moreover, the threshold basis for such a decision is clear -- fee-for-fee exchanges with railroads (which allow them to block up checkerboard land) clearly violate, at least, the spirit of Section 2(c) of the Mineral Leasing Act of 1920, as amended, (MLA). Section 2(c) provides that:

(N) company or corporation operating a common-carrier railroad shall be given or hold a permit or lease under the provisions of this Act for any coal deposits except for its own use for railroad purposes....

Within the context of the San Juan Coal Region EIS, NCA requests DOI in detail, to analyze fully all of the impacts on society and the environment of the Santa Fe exchange and not limit itself simply to a comparison of whether there are "any significant environmental differences between leasing as proposed and leasing under the exchange."¹ Such a narrow approach would severely limit the scope of analysis of the EIS, severely limit the EIS's value as a decision document and probably bias the document in favor of the exchange - rendering the EIS result-oriented rather than neutral.

^{1/} Draft Environmental Impact Statement, San Juan River Coal Regions, I-22.

- 1 -

III. APPROVAL OF THESE RAILROAD EXCHANGES, AND THE "SANTA FE EXCHANGE" IN PARTICULAR, WOULD HAVE A NUMBER OF SERIOUS NEGATIVE CONSEQUENCES

A. Introduction

It is impossible to view these exchanges as anything other than the opening wedge to a full-scale program of allowing railroads or their affiliates to "black up" or "unitize" their "checkerboard" coal lands by combining them with adjacent Federal lands.

If legally sustained, railroads or their affiliates would be able to obtain, non-competitively, vast amounts of prime coal-bearing Federal land close to existing rail transportation. Moreover, they would hold this land not as a lessee but as an owner. Furthermore, this combination of special advantages to the railroads which have been conferred by the Federal Government would result in:

- The railroads holding the largest blocks of non-federal "fee" coal in the West, which railroad affiliates could develop solely in response to market demand while independent producers must lease Federal coal subject to "diligent development" requirements.
- The acquisition of these blocks of coal by non-competitive means, thus opening the possibility for administrative discrimination which would place "captive" producers at a disadvantage.

Although non-railroad producers also own "fee" land and have and will enter into exchanges with the Federal Government, such exchanges are not comparable to the proposed exchanges involving railroads or their affiliates. Exchanges between non-railroad producers and the Federal government are primarily designed to resolve small problems and provide little or no competitive advantage.

B. Exchanges Such as Those Undertaken in the Case of the "Santa Fe Exchange" Would Undercut Completely the Remaining Carefully Crafted Federal Protections (in Particular, Section 2(c) of the Mineral Leasing Act of 1920 (MLA)) Against Anti-competitive Abuse by Railroads and Their Affiliates and Lead to Railroad Domination of the Production and Transportation of Western Coal.

1. The legislative history of Section 2(c) underscores its dominant purpose: to divorce rail transportation from production. To allow fee-for-fee coal exchanges would completely undercut the effectiveness of Section 2(c) in this regard.

In his December 6, 1982, opinion re-examining DOI's position on the applicability of Section 2(c) of the MLA to railroad affiliates, Solicitor Calderon noted: "While the clear meaning of statutory language is not to be ignored, 'words are inexact tools at best' ... and hence it is essential that we place the words of a statute in their proper context by resort to the legislative history."^{2/}

^{2/} DOI, Solicitor Opinion, "Railroad Affiliates and Coal Leasing," December 6, 1982.

The legislative history of Section 2(c) underscores its dominant purpose: to "divorce" (rail) transportation from production -- a necessity conceded by most students of the subject."^{3/}

Or as Congressman Barland, during the floor debate, stated bluntly: If they

...have organized a railroad under the separate corporate name and issued stocks and bonds upon it and have undertaken to carry not only their own goods but the goods of other people, then they ought not to be engaged in the mining of coal.

That is what the language undertakes to forbid. If they want to run a railroad let them get out of the coal business....^{4/}

Thus, as DOI concluded, in *Sheridan Wyoming Coal Co.*, May 21, 1945, "The purpose of (Section 2(c)) was to exclude railroads from the production of coal from public lands either directly or through affiliated corporation"^{5/} (emphasis added). This conclusion has also been reached by the Department of Justice (DOJ) as the DOJ in its 1980 Report on Competition in the Coal Industry stated: "Indeed, if the purpose of Section 2(c) was not to limit railroad involvement in coal production, it is extremely difficult to see what its purpose could have been"^{6/} (emphasis added).

Thus, to summarize: in 1920 when Section 2(c) of the MLA was passed, there was a clear intention by the Congress to "divorce" rail transportation and federal coal; and there is nothing in the legislative history of the MLA as amended or FLPMA, as amended, indicating that Congress had anything in mind but to continue to prevent railroad "involvement" in federal coal.

- a. The "Santa Fe exchange," the third railroad exchange to be proposed, continues the recent program to attempt to circumvent section 2(c) through the "Section 206" exchange authority.

NCA believes it is important to examine the chronology of events which led to the Santa Fe proposal. That sequence of events underscores the fact that the relevant railroad affiliates have proposed (and so far DOI has agreed) to utilize Section 206 of FLPMA to acquire federal coal after they had concluded that efforts to repeal Section 2(c) expressly would fail.

Briefly,

^{3/} H.R. Rep. 668, 63rd Cong. 2nd Sess. 3(1914); see also 51 Cong. Rec. 15178, 15180, 15181 (1914).

^{4/} 51 Cong. Rec. 15180 (1914).

^{5/} *Sheridan Wyoming Coal Co., Inc.*, DOI Decision Documents, May 15, 1945, at 2.

^{6/} Antitrust Division, U.S. Dept. of Justice Report, *Competition in the Coal Industry*, (1980), at 84 (hereinafter *Competition Report*).

- 2 -

The bill in the last Congress to repeal Section 2(c), S. 1542, was introduced on July 30, 1981.

The first hearing on S. 1542 occurred on September 11, 1981. The strong opposition to the repeal of Section 2(c) at that hearing made clear that the legislation had, at best, only a marginal chance of passage.

The first railroad fee exchange proposed under Section 206 of FLPMA, the "Tetan/Carral Canyon exchange," was proposed to DOI by the Union Pacific's Rocky Mountain Energy Co. after September 11, 1981. On March 9, 1982, a notice of the proposed exchange was published in the Federal Register (47 Fed. Reg. 9581). The second railroad fee exchange, the "Circle West exchange" was proposed by the Burlington Northern's Meridian Land and Mineral Co. on November 12, 1981 and Notice of Proposed Exchange was published in the Federal Register on December 10, 1981 (46 Fed. Reg. 60510).

Now comes the "Santa Fe" proposal.

NCA contends that having failed in the Congress by direct and forthright action to achieve the purpose of allowing railroad affiliates to compete with existing coal producers through the development of coal now federally owned, the respective railroad affiliates with DOI support now seek to accomplish the same result indirectly. DOI, by agreeing to the use of Section 206 as a device to bypass Section 2(c), not only acts in the face of the clear intent of Congress to divorce rail transportation from the production of federal coal but also is, in spirit and in fact, withdrawing from the announced commitment of the Secretary only to support repeal of Section 2(c) through the clearcut and up-front means of the legislative process.

NCA strongly recommends that DOI reverse its present policy of support for such railroad affiliate proposals and reject all three proposals presently underway.

2. Exchanges, such as the "Santa Fe exchange," have not been subjected to review under Section 15 of the FCLAA which protects against anti-competitive abuse.

Under Section 15 of the Federal Coal Leasing Amendments Act of 1976 (FCLAA), the Secretary of the Interior must consult with the Attorney General prior to each issuance, readjustment or renewal of a federal coal lease. The Attorney General advises the Secretary whether the particular lease under review would create or maintain a situation "inconsistent with the antitrust laws."¹¹ The Attorney General opinion is not determinative. The Secretary may issue the leases, if he finds, after a hearing that: (1) the lease issuance is necessary to effectuate the

Sec. 15(a)(2); 30 U.S.C. Sec. 184 (1)(2), Act of August 4, 1976, Pub. L. 94-377, 90 Stat. 1091, codified at 30 U.S.C. Sec. 184(1)(2) (1976).

purposes of the FCLAA; (2) it is in the public interest; and (3) there are no reasonable alternatives consistent with the FCLAA, the public interest and the antitrust laws.

The adequacy of Section 15 Review to protect against anticompetitive abuse was a critical basis for the Department of Justice (DOJ) changing its position on Section 2(c). Although NCA disagrees with the Department of Justice on the adequacy of Section 15, DOI has not in the first two exchanges sought Department of Justice approval of the exchanges. This seemingly is on a "lease" versus "fee" distinction.

Certainly insofar as the competitive impact on the coal industry is concerned there is no difference between a fee conveyance and a lease of federal minerals. In any event there is little, if any, substantive difference between a federal coal lease and the fee conveyance of federal coal. A federal coal lease gives the federal lessee "the exclusive right and privilege to mine and dispose of all of the coal" covered by the lease (Section 2 of current lease form) -- in other words, a federal lessee has the right to mine to exhaustion, subject only to the payment of royalties and the diligent development of the reserve. The courts have held that "such an instrument, even though in terms of a lease, will be construed as a conveyance of the coal in place,"¹² and that "a lease of coal in place with the right to remove until exhaustion constitutes a sale of an estate in fee simple and the remaining interests of the lessor in the royalties to be paid is personally."¹³

3. Approval of the "Santa Fe Exchange" would lead to a violation of the "Commodities Clause."

The enactment of Section 2(c) in 1920 came some fourteen years after Congress enacted in 1906 the "Commodities Clause" which declares that it is unlawful for a "rail carrier" to transport any commodity which (1) is "manufactured, mined or produced by the carrier or under its authority; or (2) is owned by the carrier or in which it has an interest."¹⁴

In enacting Section 2(c) Congress ensured that the purpose of the "Commodities Clause" would not be thwarted either by the transportation or the acquisition of federal coal by the railroads. Section 2(c) effected a national policy to proscribe railroad involvement with federal coal, at any stage, in competition with the coal industry.

Since 1909, the carriers have been relying on the Supreme Court's decision in *United States v. Delaware and Hudson*,¹⁵ that a railroad company does not include railroad affiliates for the purpose of the Commodities Clause. But as the DOJ noted in its 1980 *Competition Report*, that decision "has been thoroughly discredited."¹⁶

81 Gilbertson v. Philadelphia and Reading C. & I. Co., 20 A. 2d, 217, 221 (Pa. Sup. Ct. 1941).

9 In re Appropriation and Taking of Lands of the Essex Coal Company, 192 A. 2d 675 (Pa. Sup. Ct. 1963).

10 Act of Feb. 4, 1877, ch. 104, 24 Stat. 379, Sec. 418, as amended, codified at 49 U.S.C. Sec. 1074a.

To approve the "Santa Fe Exchange" would be the first step in a three step scenario, leading to a violation of the "Commodities Clause" and Section 2(c). If DOI (1) conveys federal coal to a railroad or affiliate which (2) that railroad thereafter transports, (3) the railroad would be transporting and selling coal it has "mined" -- a square violation of the Commodities Clause. Congress could not have intended that result when it enacted 2(c) in 1920, when it passed FLPMA in 1975, when it amended the MLA by the enactment of FCLAA in 1976, or when it amended the FLPMA in 1978. The coal industry recognizes that the DOI favors the repeal of Section 2(c). But the fact remains that if the Department proceeds, it would preempt Congressional domain and enable that a railroad affiliate to accomplish indirectly what it cannot do directly.

C. The Results of Undercutting these Carefully Crafted Protections Against Anti-Competitive Abuse - Ultimate Control of the Marketplace by the Railroads

1. The Railroads Dominate the Transportation of Western Coal

Except for short-haul distances, there is no alternative in the West to the railroad for the transportation of coal to market.

Barge transportation requires a network of waterways which is not available in such states as Wyoming and Montana. Trucks are used only for short-haul distances, primarily to move coal to rail-loading facilities. Mine-mouth electrical generation facilities are available mainly when the market to be served is relatively close to the generation facilities.

As the Department of Justice *Competition Report* stated:

...coal slurry pipelines and coal-by-wire are the only modes of transportation that potentially could offer substantial competition for railroads in the long-haul transportation of coal. Whether these modes are, or will be, good substitutes for railroad transportation is a complex question the answer to which depends on a number of institutional factors. Engineering cost studies show that either or both is no more costly than rail transportation in many cases, but these studies do not always capture the effect of several important costs and do not consider the extent to which these two modes are subject to serious political, environmental and other constraints that do not apply to rail transportation. The Department's analysis indicates that these other costs and constraints are sufficient to prevent coal slurry pipelines and coal-by-wire from being good substitutes for railroad transportation of coal.¹⁷

2. Dominance of Production and Control of Transportation Leads to Control of the Marketplace

If railroads were to produce coal in competition with non-railroad producers who rely on rail transportation, railroads and the non-railroad producers would compete for the same markets. The non-railroad producer would be subject to the possibility that its rail carrier would:

- Use the contract service mechanism to favor coal produced by railroad entities over non-railroad produced coal.
- Refuse expansion of track capacity to serve areas where non-railroad companies were producing in competition with railroad coal; or
- Decrease or make unsure the transportation of non-railroad coal to market.

The profitability of a railroad raising its rates and/or decreasing its transportation is exemplified in an analysis in the *Competition Report* in which it was shown that the Burlington Northern could raise its rates by 50% by 1995, lose 16.2% in transportation revenues and still make money on the hauling of independent coal because of the reduction in transportation costs to the railroad. If a railroad exercised this kind of ability, non-railroad-produced coal which is price sensitive to transportation costs could be severely damaged in the marketplace in its competition with railroad-produced coal.

Moreover, as the "Competition Report" discussed:

The ICC does not currently have the authority to require a railroad to build new track into an area the railroad does not already serve; the ICC is empowered only to compel railroads to build extensions of trackage in areas already served....

Of more importance to preventing service restrictions on the Western railroads is the extent of the ICC's authority to require a carrier to expand the capacity of its track. Capacity of rail lines serving many coal regions is currently insufficient to carry coal to meet projected demand.... Whether the doubling of existing trackage is an "extension" within the meaning of the statute is unclear.... (However, even) if the ICC's power to complete expansions of capacity were unquestionable, railroads could still effectively restrict capacity. The ICC cannot compel the expansion of capacity until such time as a shortage has been demonstrated. The time lag inherent in the regulatory process may be so great that a railroad need not fear the ICC's power. It could restrict capacity, drive up coal prices, and enjoy its profits before corrective action could be taken.¹⁸

The last point is particularly important with respect to these exchanges. With an exchange, the only coal available for non-railroad producers would be the Federal block farmed outside the "checkerboard" area. If the Federal block were far away from the railroad line, its worth to non-railroad producers would be negligible. Non-railroad producers would either have to build railroad lines of their own or truck coal at exorbitant costs, thereby

11 13 U.S. 366 (1909).

12 *Competition Report*, supra note 6 at 85.

13 *Competition Report*, supra note 6 at 38-39.

14 *Competition Report*, supra note 6 at 72-74.

pricing themselves out of the market.

1. The Staggers Rail Act Has Reduced the Ability of the Federal Government to Cope with these Problems.

Proponents of the repeal of Section 2(c) dismiss the possibility of discriminatory transportation practices against competitive coal producers should Section 2(c) be repealed. It has been suggested that the Interstate Commerce Act affords adequate protection against rail discrimination, but this idea ignores the impact of the 1980 Staggers Railroad Regulatory Reform Act (the Staggers Rail Act) which gives railroads broad powers to establish rates for the transportation of coal without governmental intervention. In fact, the Staggers Rail Act was designed to increase the rail carriers' ability to set rates free from Interstate Commerce Commission (ICC) oversight.

Again, to quote the Justice Department Competition Report:

(The Staggers Rail Act) specifically authorizes carriers to enter into contract rates with shippers, but does not make it mandatory for carriers to do so. Consequently, the carriers are equally free to refuse to offer unit-train contracts as they are to deny unit-trains without contracts. Moreover, since the Act also limits the power to the ICC to prescribe maximum reasonable rates, it may be less likely that the ICC could force a carrier to offer unit-train service by prescribing a maximum reasonable rate of which the carrier must offer unit-train service or fail to reserve its costs.^{15/}

The potential effect of the Staggers Rail Act is so great that the Justice Department was forced to qualify several of the most important conclusions in its Competition Report. For example, a key determination of the Competition Report was that although the Burlington Northern had "market power" over the transportation of coal, such a condition did not necessarily have an "anti-competitive effect," because long run coal transportation rates were not too much in excess of marginal rates. However, Justice concluded that:

Legislation just passed by Congress could allow railroad coal rates to rise substantially and might greatly alter the conclusions of this section.... It provides that the ICC does not have jurisdiction over rates where revenues would be less than a specified percentage of variable costs.^{16/}

The Staggers Rail Act expressly authorizes railroad contracts with shippers providing unregulated rates for distinct rail services which may not be challenged in a rate discrimination proceeding. We believe proponents of exchanges are making empty promises when they say that independent coal producers would be protected by existing laws.

15/
16/ Competition Report, supra, note 6 at 78.
Competition Report, supra, note 6 at 71.

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Ultimately lead to one railroad company in each of the three Western production areas, subject to interregional competition, setting the price for Western coals, irrespective in many cases, of the interest of consumers;

Coal producers are the prime users of Western rail lines, especially spur lines. If unfair railroad competition caused non-railroad producers, especially those near rail lines, to close mines:

- the rail lines near such mines might be abandoned because the remaining non-coal traffic might be insufficient to support continuance of that line; or
- prices charged to non-coal transporters might increase because of declining use by non-railroad coal producers in certain areas.

Because of declining non-railroad coal producer use, unfair competition could have serious negative consequences to other users of rail transportation and to consumers.

V. LEASE EXCHANGES, SUCH AS THE "SANTA FE EXCHANGE," WILL DEPRIVE THE FEDERAL GOVERNMENT AND STATE GOVERNMENTS OF ROYALTY AND ACQUISITION PAYMENTS

As discussed previously, the checkerboard coal lands currently owned by the railroads were granted outright by the government and are free of royalty and acquisition costs. This puts a railroad in a tremendously advantageous economic position when competing with an operator who not only pay royalty and acquisition costs but is also subject to the requirements of the Federal Coal Leasing Amendments Act of 1976.

Moreover, because of the significant economic advantage granted to the railroads if exchanges such as the "Santa Fe exchange" are approved, independent companies who would otherwise acquire competing tracts may be forced to develop other areas.

This lack of competition would undermine the viability of the competitive leasing system and would result in lower bids received by the Federal Government for Federal coal leases in areas where exchanges such as the "Santa Fe exchange" were granted. This, of course, would result in less revenues to the Federal Government and the states from competitive lease sales. Further, it could lead to railroad domination and control of the key areas of Western coal production, namely, the coal resources with closest proximity to transportation.

VI. CONCLUSION - DOI SHOULD NOT PERMIT A TORTURED AND TWISTED READING OF CLEAR CONGRESSIONAL INTENTIONS AND SHOULD REVERSE THE DEPARTMENTAL POLICY OF EXCHANGING FEDERAL COAL LANDS WITH RAILROAD AFFILIATES.

The intention of existing Federal law is clear: dispositions of Federal coal should undergo rigorous scrutiny and the transportation of coal, particularly coal originally derived from the public lands, should be "divorced" from the production of such coal. The railroads should not be permitted to hide behind the cloak of a deed or patent (rather than a Federal lease which grants the lessee the right to mine the mineral to exhaustion) to avoid the clear mandate and intention of Congress. There is nothing in FLPMA, as amended, which in any way suggests that

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Exchanges, such as the "Santa Fe exchange" would have a drastically adverse effect on the coal industry's ability to remain the vibrant competitive force that it is today in the West. During another go-around on the subject of railroads or railroad affiliates operating as producers of Federal coal in 1976, the need for retaining the barrier to such production was well stated by the Justice Department under the Ford Administration:

The Antitrust division continues to believe in the basic wisdom of keeping common carriers which may have natural monopolies of particular modes of transportation out of the business of developing or marketing the commodities which they haul. In these situations, our experience demonstrates that there is so much potential for abuse in a vertical integration scheme that it is usually best to eliminate the problem ab initio. In order to insure non-discriminatory treatment of other shippers of the hands of (a) common carrier which is also a shipper, it is more effective to segregate the industries than to try to achieve the same result by regulation.^{17/}

The Justice Department in 1981 changed its general position on the repeal of Section 2(c) and thus, on the central question of how strong should be the protection against anti-competitive abuse. As noted, a critical basis for that change involved the adequacy of Section 15 of the FCLAA to protect against anti-competitive abuse but that Section 15 has not been applied to these exchanges. The coal industry believes the Department was incorrect in changing its position, particularly in light of DOI's new posture on exchanges.

IV. RAILROAD DOMINATION OF WESTERN COAL-BEARING LANDS MOST LIKELY TO BE DEVELOPED FIRST, COUPLED WITH THEIR NATURAL TRANSPORTATION MONOPOLY, COULD HAVE SERIOUS NEGATIVE IMPACTS ON THE PUBLIC INTEREST.

Railroad domination of coal production and transportation created through exchanges could, to varying degrees:

- Allow railroads to compete unfairly with non-railroad producers in the marketing of Western coals;
- Undercut the competitive leasing system and reduce Federal and State royalties to the extent that:
- the quality of private coal would likely be inferior to the Federal coal for which it would be exchanged;
- interest in bidding by producers for a newly acquired block of Federal coal would be less than it would have been for an entire block of "checkerboard coal" (based on the fact that, regardless of quality, the coal outside the "checkerboard" area would be located away from the railroad line);
- interest in bidding by non-railroad producers for any new Western coal would be reduced because of unfair competition by railroads.

17/ Hearings before the Subcommittee on Mines and Leasing of the House Committee on Interior and Insular Affairs, 94th Cong., 1st sess. (1976), at 3.

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Congress intended to create an exception for fee dispositions to avoid the impact of Section 2(c), Sec. 15, or the "Commodities Clause." DOI should not permit the railroads to torture and twist clear Congressional intentions and pursuant to this should: (1) reverse its policy of exchanging federal coal lands with railroad affiliates; and (2) terminate actions on the three exchanges that are underway.

April 8, 1983

SOUTHWEST RESEARCH AND INFORMATION CENTER

C. W. Luscher
State Director
Bureau of Land Management
P. O. Box 1449
Santa Fe NM 87501

Dear Mr. Luscher:

Southwest Research and Information Center would like to comment on the Draft San Juan River Regional Coal Environmental Impact Statement by calling attention to the detailed comments submitted on this document by Rio Grande Chapter of the Sierra Club (and others) and Environmental Defense Fund. I hope that these comments and their appendices can be reproduced in full in the final impact statement, as they document some serious problems with the statement and with the planning documents that preceded it.

We believe the draft EIS should be withdrawn and replaced by site-specific EIS's on PRLA's or groups of PRLA's. The document as it stands has little useful information on how BLM proposes to process the PRLA's, or on what alternatives exist for dealing with them. As for competitive leasing, we believe that competitive leasing cannot be justified in view of the many authoritative analyses showing that it is not needed to meet the DOE production goals, and in view of the unrealistically high nature of the goals themselves.

We recommend that BLM revise the Management Framework Plan and write a cumulative environmental impact statement on all planned development for the area. The desires of Navajo residents should be given great weight in this process. BLM should deny PRLA applications that do not show commercial quantities after protection of local residents, their water sources and grazing opportunities, wilderness and scenic areas, archeological and paleontological resources, and the costs of reclamation and transportation are figured in.

After immersing myself in the coal leasing regulatory process for many months, I am impressed with two things. One of them is the erosion in practice of almost every provision of the regulations and procedures that are supposed to balance the public interest against private demand for coal resources. The Rio Grande Chapter of the Sierra Club's comments document many instances of this. The other is the very strong opposition to this kind of development among most of the people that live in the area to be mined. This can only be fully appreciated by listening to the people themselves.

Sincerely,

Alison P. Monroe

P.O. BOX 4524 ALBUQUERQUE NEW MEXICO 87106 505 - 262-1862

April 8, 1983

SOUTHWEST RESEARCH AND INFORMATION CENTER

C. W. Luscher
State Director
Bureau of Land Management
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Dear Mr. Luscher:

Southwest Research and Information Center would like to comment on the Draft San Juan Basin Cumulative Overview by endorsing the comments of the Committee on Coal by reference. We believe the Cumulative Overview should be replaced by a full environmental statement on the San Juan Basin Action Plan. Such a statement would include cumulative impacts on water availability and impacts of all industrial and urban development being considered for the area. It would address the cumulative impacts on the Navajo culture of the area in a thorough, creative, interdisciplinary fashion, and analyze alternatives to the proposed development.

Sincerely,

Alison P. Monroe

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SOUTHWEST RESEARCH AND INFORMATION CENTER

C. W. Luscher
State Director
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Santa Fe NM 87501

Dear Mr. Luscher:

Southwest Research and Information Center submits this brief statement as comment on the Draft Environmental Impact Statement: Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town. We appreciate your 60-day extension of the comment deadline, as it enabled many groups and persons to give these documents detailed review.

I would like to endorse by reference and call special attention to comments on this document submitted by Committee on Coal, Environmental Defense Fund, Randy Albright, and Sharon Murray. I believe some very important issues are raised in those comments. I would suggest that the final EIS reproduce them in full along with their appendices, so that the public can review them.

Having participated in the scoping process for this EIS from the beginning, I am disappointed with the analysis in the EIS. The money spent for it supported some excellent research in some of the technical reports, but the analysis at the heart of the environmental impact statement, the identification of alternatives, remains narrow and self-justifying. The EIS does not seriously explore any alternative to building the plant at Bisti. Alternative sites and technologies are described in a slipshod, grudging way. The attached paper by Dave Marcus documents some major deficiencies and sources of bias in BLM's analysis of alternative sites.

SRIC and others have been saying for a year and a half now that PNM's explanation of the need and purpose for the plant is unsupportable. Now that PNM itself has abandoned its earlier position that the plant is needed in 1990 for in-state use, we hope you will come to agree with us about the lack of justification for carrying out the Ute Mountain Land Exchange or other actions furthering the New Mexico Generating Station at this time. The environmental review process should be suspended until such time as PNM has a well-defined proposal and is no more than 10 years away from operation of the first unit of the plant.

Sincerely,

Alison P. Monroe

SOUTHWEST RESEARCH AND INFORMATION CENTER

Dave Marcus
April 8, 1983

SELECTION OF THE BISTI SITE

The NMGS DEIS reviews the environmental acceptability of a 2000 MW powerplant and associated transmission lines at the Bisti site in Northwest New Mexico. It recommends approval of the project at that site (NMGS DEIS, p. 1-42, "Agency's Preferred Alternative"). A mere six pages of the inch-thick DEIS contain the entire discussion of two alternate sites (NMGS DEIS, pp. 3-40 to 3-46), and a "Site Alternatives Technical Report" (BLM, October 1982) ranks Bisti above those two sites.

For a variety of reasons, the BLM's selection of the Bisti site is flawed. The DEIS itself provides a decisionmaker virtually no basis for deciding among the sites. It has no maps of the alternative sites. It gives contradictory descriptions of where the McKinley site is located. It describes a Torrance site which is different from, and inferior to, PNM's preferred Torrance site. It manages never to mention that PNM, WCC, and the BLM have all found the Torrance site environmentally superior to the Bisti site.

The Site Alternatives Technical Report (cited herein after as Site TR) is not much better. It is only 21 pages long, with the first page explaining that it is mostly based "on a siting study that PNM prepared for its own use [in 1975-77]" (Site TR, p. 1-1), and the next 16 pages describing that 5 year study and its results. Only the last 4 pages of the Site TR describe the BLM's review of the PNM and even then only in general terms. There is no way for the reader to replicate the BLM's site ranking. (Site TR, p. 3-3). Finally, despite the conclusion that the Torrance site would be environmentally preferable to Bisti (Site TR, p. 2-16), and that Torrance would also be cheaper than Bisti if wet/dry cooling had to be used at Bisti (Site TR, p. 3-3), the "BLM determined that it would be reasonable to proceed with a detailed environmental analysis of only the Bisti site for the NMGS EIS" (Site TR, p. 3-4).

SRIC has reviewed the Site TR and various WCC and PNM site selection documents dating back to 1976. Taken together, they show that the Bisti site selection is based upon arbitrary assumptions which tend to make any other site look inferior, notably the assumption that any new powerplant must obtain its coal from a Bisti mine. By relying upon out-of-date and incorrect assumptions and data with respect to site selection, the BLM has produced a truly inadequate DEIS.

The comments below point out specific problems in the Site TR.

1. p. 2-1. PNM's site selection process was geared to finding a site for "up to 2500 MW" to be "on-line sometime in the mid-1980's."

These criteria mean that sites that were suitable for smaller plants only (our, say, to land or water constraints) or later operation (due, say, to lack of developed coal mines in the mid-1980's) would have been ignored or downrated. The RLM does not appear to have sought out such overlooked or underrated sites.

2. p. 2-4. Map 2-1 shows the 22 "candidate site areas" reviewed by WCL in 1975-76.

Note that the Bisti site was not included.

3. p. 2-6. "Western Coal Company's Bisti mine was assumed to be the least expensive source of coal...in the entire study area."

First of all, the "Bisti mine" does not exist; there is only a lease, not a mine. Second, "Western Coal Company" does not exist. It has been dissolved, and its Bisti area leases are now held by PNM's wholly-owned subsidiary Sunbelt Mining Company. More importantly, assuming Bisti coal as the source for all sites hopelessly biases the analytical results. For a 1995 powerplant at the McKinley site, coal could come from either the Lee Ranch Mine or the South Hoshang Mine, both of which are within a few miles of the McKinley site, and both of which the BLM expects will be operating by then (NHGS OEIS, pp. C-5, C-6). The OEIS also shows 1995 mines at Gallo Wash and perhaps at Star Lake (NHGS OEIS, pp. C-5, C-10), both closer to McKinley than the proposed Bisti mine. Additionally, the BLM is proposing to lease 2.2 billion tons of PRLA coal and 1.3 billion tons of Federal coal in 1983-84, virtually all of which is at locations closer to the McKinley and Torrance sites than Sunbelt's Bisti leases. Since fuel transport is one of the two major causes of differential site costs (Site TR, p. 2-6), ignoring non-Sunbelt coal sources is a major error in the Site TR.

4. p. 2-7. "Wet sites have a significant cost savings over nonwet sites."

This statement demonstrates the absurdity of selecting Bisti as the preferred site (OEIS, p. 1-42) without knowing whether PNM will be able to obtain surface water from the San Juan River. PNM's prospective San Juan River water supplier, Utah International, has its water contract challenged in court by the Jicarilla Apache tribe. PNM's groundwater appropriation request is pending before the state water engineer. It is still very possible that the Bisti site could require wet/dry cooling, in which case it would be economically inferior to a Torrance site using wet cooling (Site TR, p. 3-3).

5. p. 2-7. "Transmission line routes were evaluated from each candidate site area to the Albuquerque load center, to the El Paso load center, and to the existing transmission system."

The RLM has not redone the transmission line impact assessment to exclude El Paso. Nor has it redone the analysis to include changes to the existing system, such as PNM's proposed 345 kV transmission line to Roosevelt County. This line is proposed for operation by 1985, 10 years before NHGS, and would

pass approximately 30 miles from PNM's preferred Torrance 1B site (see maps in Chisholm testimony, PNM filings in NHPSC Case 1794, and in the September 7, 1977 Anderson memo (PNM) on NHGS siting). The RLM has incorrectly assumed that all lines from the Torrance site would have to go 60-70 miles to Albuquerque, crossing the Manzano Mountains en route, and it has incorrectly assumed (in the Site TR) that transmission lines to El Paso are part of the NHGS project.

6. p. 2-10. "Ranking the Candidate Site Areas" was done by means of "tradeoffs" among the various impacts, which "were developed using preferences of the project team consisting of representatives of PNM augmented by professionals in various disciplines selected from among [PNM's] consultants."

Note that PNM and people working for it chose the rules for picking among sites. The tradeoff process involves implicitly assigning dollar values to environmental and social costs. Without a statement of the weights used for different impacts, neither the public nor the decisionmaker can judge their reasonableness. The Site TR never says what tradeoff weights were used. See comment 11 below.

7. p. 2-11. The Torrance site was preferable on environmental grounds alone, but ranked lower than Bisti when economic cost was considered.

See comment 3 above. Note also that no consideration was given to the cost savings at Torrance due to lower transmission losses there than at sites farther from Albuquerque.

8. p. 2-13. "The Bisti site was preferred when assuming either wet- or wet/dry cooling systems for all alternatives."

This sentence is misleading. The Torrance site with wet cooling was ranked higher than the Bisti site with wet/dry cooling (Site TR, p. 2-14). Since Torrance and Bisti are in completely different groundwater basins, it is quite possible that wet cooling could be feasible at Torrance but not Bisti.

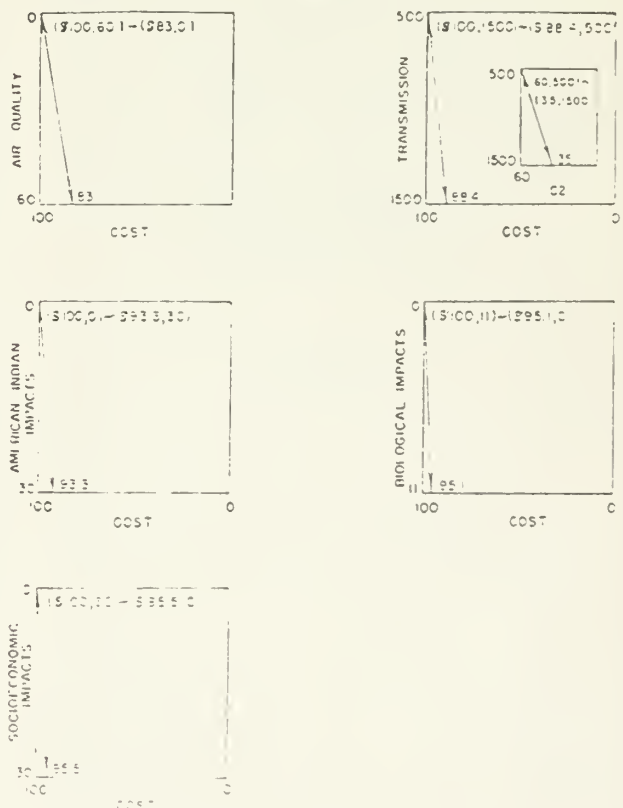
9. pp. 2-14 and 2-15. Tables 2-2 and 2-3 provide rankings in dollar and environmental terms, respectively.

No data is given as to what the dollar terms mean (net present value? 1976 dollars? 1995 dollars?) or the valuation of environmental cost (how many dollars per ton of sulfur dioxide?). Note that the "Bisti Mine" alternative refers to supplying the Bisti site with water from uranium mines, which is not an option considered in the OEIS. Using San Juan River water as PNM now proposes, with its uphill water pumping costs, is not considered in Tables 2-2 and 2-3. Note that Torrance is second economically (Table 2-2, omitting the now-defunct "Bisti Mine W" option) and first environmentally (Table 2-3), while Bisti is first or third economically (depending on cooling system), but 13th environmentally.

10. p. 3-2. In the BLM's review of PNM's site studies, "levels of the noncost attributes for each site were the same as in the Phase Two [PNM] ranking except for Torrance [agricultural impacts]."

This sentence means the BLM used impact rankings which included

Figure E-3. TRADEOFFS



transmission lines to El Paso but ignored PNM's Eastern Interconnection line. It means BLM used air quality impacts based on the Torrance 1A site evaluated by WCL rather than the Torrance 1B site preferred by PNM, which is more than twice as far from the Manzano Mountains.

11. p. 3-3. Table 3-1 shows the BLM's ranking of Torrance, McKinley, and Bisti with various cooling options. Torrance with wet cooling ranks above Bisti with wet/dry cooling but below Bisti with wet cooling.

Again, relative weights for different economic, environmental, and social factors are not given, so the numbers in Table 3-1 are useless to an individual decisionmaker. SRIC has briefly reviewed the actual tradeoffs used to convert environmental and socioeconomic impacts into dollars (WCL, "NHGS Site Selection Report," December 1980, Appendix E, p. E-51, Figure E-3 (attached)). This review shows that, buried deep in an appendix to an unpublished report backing up a technical report to the OEIS, the BLM gave more than twice as much weight to cost as to all other impacts combined. Looking just at air quality (cost is shown in millions of dollars; impacts in micrograms of SO₂ per cubic centimeter), Figure E-3 shows that reducing air pollution to zero would only be worth \$17 million. This valuation utterly flies in the face of reality; at the 1600MW Four Corners 4-5 project, for example, the owners (including PNM) are currently spending over \$300 million just to reduce sulfur emissions about two-thirds. Figure E-3 says that it would not be worth it to spend \$17 million more even if that \$17 million could completely eliminate sulfur emissions. In fact, since no other air pollutant is included in the BLM's tradeoff analysis, SO₂ acts as a proxy for all air pollutants. So Figure E-3 says that it's not worth spending more than \$17 million even to eliminate sulfur, nitrogen, and particulate emissions together. The BLM may think \$17 million is a fair tradeoff for all the air pollutants from a 2000 MW coal plant, but Congress obviously did not when it passed the Clean Air Act. The BLM ignores the societal value of clean air by using the tradeoffs in Figure E-3.

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Dear Mr. Luscher:

Enclosed are joint comments by the Committee on Coal, the Rio Grande Chapter of the Sierra Club, the New Mexico Audubon Council, and the Taos Environmental Association on the Draft Environmental Impact Statement: Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town. We appreciate this opportunity to comment and your 60-day extension of the comment deadline.

We find the treatment of need and identification of alternatives in this statement to be "so inadequate as to preclude meaningful analysis" (CEQ regulations, 43 CFR 1502.9(a)). BLM has failed to give more than cursory analysis to any alternative to a coal-fired power plant at Bisti.

BLM's failure to independently critique an inaccurate and misleading statement by PNM on the purpose and need for the project has led to the vague and scanty treatment of viable alternatives, including a one-sentence dismissal of the true no-action alternative. Furthermore, BLM's failure to take a hard look at the need for the plant has already influenced decision-making; for example, in BLM's sending of a memo to the Governor and Congressional delegation in January 1982 which stated that the Navajo Tribe's Joint Use Area resettlement land selection "could seriously affect the availability of electricity in New Mexico".

Besides being misleading about the need for NMGSS and the alternatives available to it, the draft statement contains serious deficiencies in its analysis of impacts on Native Americans, land-use conflicts, impacts on air and water, and economic impacts. It fails to give serious analysis to the New Town, which at a population of 20,000 would be the second biggest city in Northwest New Mexico, situated in the middle of a remote, undeveloped area

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occupied by traditional Navajos, and which would have profound socioeconomic impacts as well as irreversible impacts on the scenic and scientific resources of the area. Neither this draft statement nor the draft cumulative overview addresses the cumulative impacts of the total range of planned developments on Native Americans and water availability.

The Committee on Coal, the Rio Grande Chapter of the Sierra Club, and the New Mexico Audubon Council urge you to suspend this EIS process until such time as startup of the first unit of the plant is no more than 10 years away according to PNM's official plans submitted to the Public Service Commission. Under present PNM plans, if the plant is not delayed again, that 10-year horizon would begin at 1985. At that time BLM could begin to prepare a revised draft EIS, with a view towards making a decision on the plant well before the 1991 construction start-up date now envisioned by PNM. This delay would allow time for the identification of reasonable energy supply alternatives based on up-to-date forecasts, the collection of concrete data on PNM's plans for air and water pollution control and for the new town, and extensive consultation with local residents. Alternatively, BLM could deny the applications for rights-of-way and the land exchange, as the development they are intended to support has not been fully and honestly described by the applicant, and as the plant and town would have negative impacts on local residents, on water supply, and on scenic, paleontological and cultural values in a relatively remote and undeveloped area.

Thank you for your serious consideration of our views and our substantive comments.

Sincerely,

Mimi Lopez
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Committee on Coal

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COMMENTS

DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC SERVICE COMPANY OF NEW MEXICO'S
PROPOSED NEW MEXICO GENERATING STATION
AND POSSIBLE NEW TOWN

SUBMITTED BY THE COMMITTEE ON COAL
THE RIO GRANDE CHAPTER OF THE SIERRA CLUB
THE NEW MEXICO AUDUBON COUNCIL
AND THE TAOS ENVIRONMENTAL ASSOCIATION

APRIL 8, 1983

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Compiled by Allison Monroe of Southwest Research and Information Center with assistance from Dave March, Paul Robinson, Michael Grand, Scott Portman, and others.

Introduction

Public Service Company of New Mexico, New Mexico's largest investor-owned electric utility, has been considering the possibility of building a coal-fired power plant at Bisti, New Mexico, since the early 70's. In 1972 or 1973, according to the Albuquerque District office, PNM first began informal talks with BLM about a land exchange whereby PNM could obtain land in the Bisti area from BLM. In 1974-1976 Woodward-Clyde did a multi-volume analysis of potential sites for coal and nuclear power plants for PNM and El Paso Electric. The Bisti site was considered during this evaluation but was dropped during the later stages as having oil and gas conflicts and poor water availability. In 1976-1977 PNM and Woodward-Clyde personnel did further comparative studies of sites, at which time the Bisti site was reintroduced, based on the assumption that water to run the plant could be obtained from dewatering uranium mines to the south of the area. According to PNM's 1981 Annual Report, "The prime consideration in the selection of the Bisti site was the close proximity of adequate coal fields". PNM's subsidiary, Sunbelt Mining Company, owns state and federal coal leases in the Bisti area. In early 1977 PNM offered BLM land it had bought at Ute Mountain near Taos in a trade for lands BLM owned in the Bisti area.

In early 1981, BLM announced the "San Juan Basin Action Plan", a group of related actions concerning coal leasing and the proposed 2000-megawatt Bisti power plant, now called the New Mexico Generating Station. As part of this Action plan, the Environmental Assessment on the Ute Mountain Land Exchange was released in draft form in June 1981 and final form in September 1981. Although the exchange has not yet been carried out, a draft Notice of Realty

Action has been prepared and final appraisals made.

The draft Environmental Impact Statement on the New Mexico Generating Station was released in late November, 1982, the following are our comments on that draft statement.

Summary

The EIS is inadequate for decisionmaking under NEPA for several different reasons. Perhaps most important, the DEIS relies on a description of the schedule and purpose for the power plant which PNM knew to be inaccurate, and which BLM and Woodward-Clyde (the third-party EIS contractor) failed to independently evaluate. The present DEIS inaccurately describes PNM's plans. These presently admitted plans are to begin construction in 1991 or later (instead of 1985), to have the units come on line in 1995-1999 instead of 1990-1998, to only use 30% of the plant for PNM customers (instead of the plant being "committed to New Mexico needs", DEIS p. D-5), and to build only one transmission line in addition to the Four Corners-Ambrosia-Pajarito line, instead of two new ones.

These inaccuracies make much of the analysis of important issues in the EIS obsolete. These issues include: the availability of generation alternatives, the availability for air pollution control technology, and the magnitude and timing of socioeconomic impacts. It appears that neither BLM nor Woodward-Clyde has given any serious independent review to PNM's assessment of need for the plant, and BLM has attempted to deny responsibility for such independent review, stating that the state Public Service Commission has that authority and implying that the PSC participated in BLM/WCC's review.

(letter from L. Woodard to A. Monroe of April 7, 1982, attached).

The EIS does not treat any alternative to building the coal plant at Bisti in a substantial enough way to allow a decisionmaker to assess it in comparison to building the plant. The no-action alternative, the alternative of building no power plant whatsoever in the early 1990's, is dismissed in one sentence; the discussion of generation alternatives is vague and based on an incorrect timeframe and power requirements, the analysis of alternative coal sources consists of one paragraph, and the analysis of alternative sites is vague and riddled with errors.

The DEIS refuses to seriously discuss a very major part of PNM's proposal, the "Possible New Town", on the grounds that the need for the town has not been established. However, as building the new town is a "reasonably foreseeable" (40 CFR §1508.8 (b)) consequence of PNM's acquisition of the land, its major social and environmental impacts must be addressed in an EIS prior to the land exchange action.

The DEIS has no serious discussion of land use conflicts and ignores existing conflicts and their history.

The DEIS in its discussion of water quantity and quality problems fails to give sufficient information on the design of the plant and the status of PNM's applications for water rights to allow a determination of whether PNM's plans are feasible, how severely Indian water users will be impacted, or whether ground or surface water pollution will occur. Neither this DEIS nor the Cumulative Overview discusses cumulative water needs for all proposed projects.

The DEIS has only scanty and vague discussion of Native American concerns, and neither this DEIS nor the Cumulative Overview discuss cumulative

impacts on mental or physical health, morale, culture, or race relations resulting from the proposed developments.

The DEIS refuses to discuss several issues, often on the grounds that the impacts are insignificant or not quantifiable. These include effects of air pollution on health, regional haze, or vegetation used for grazing, and impacts of reduced flow in the San Juan River. The EIS does not discuss socioeconomic effects on Shiprock or Crownpoint, nor does it calculate net fiscal impact on the State of New Mexico or the Navajo Tribe.

Need

The regulations issued by the Council on Environmental Quality state that an agency responsible for an environmental impact statement shall evaluate data submitted by applicants and be responsible for its accuracy (40 CFR 1500.5 (a)), and shall independently evaluate an environmental impact statement written by a contractor and take responsibility for its scope and contents (40 CFR 1500.5(c)).

Southwest Research and Information Center, in letters dated May 1981, November 1981, and March 1982, informed BLM that an independent assessment of PNM's need for the plant was necessary, citing consultant Dave Marcus's contention that PNM's own demand forecasts and available resources showed that the plant was not needed until at the earliest 1994, and that PNM's own filings with the Public Service Commission showed that PNM did not intend to use more than 600 megawatts of the plant and none of it before 1994. In conversations and letters in response to these letters, BLM stated that the "purpose and need" for the project were to be provided by the applicant, and that the determination of need for a facility was the responsibility of the Public Service Commission.

Some legal and policy arguments against this position were advanced in SWRIC's letter of November 1981 (attached). Perhaps most important of these is that BLM's course of action in allowing PNM to exaggerate need for the plant prejudiced the definition of the "no action" alternative, which in this DEIS is represented by a mixture of unattractive energy options with considerable environmental impact (see below). Such a definition misleads and predetermines decisions by BLM and the public.

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False statements on just the first page of the summary of the DEIS--as much as some people will read of the massive document--are listed below.

"...the major purpose of the proposed NMGS is the generation of electricity...to meet the forecasted need of PNM's system." As PNM has determined that it only needs 600 megawatts of a 2000 megawatt project, the major purpose of the project must lie elsewhere. 70% of the capacity of the plant is intended for other utilities, almost certainly outside New Mexico.

"The ultimate authority for resolving the question of need rests with the New Mexico Public Service Commission". Woodward-Clyde has stated in the Purpose and Need Technical Report that it proposes to determine whether "PNM is pursuing a reasonable purpose in attempting to obtain environmental approval at this time for NMGS" and whether "there is sufficient likelihood that NMGS will be needed so that environmental review is justified at this time (Purpose and Need, p. 2-1, 2-2)

"PNM has filed applications for ...2 500 kV lines that would be needed in the development of the proposed 2000 megawatt NMGS..." As PNM only plans one transmission line, the second one does not seem to be needed (Marcus, March 1983).

"The power generated by the plant would be transmitted on...two 500-kV transmission lines to Albuquerque; from there it would be distributed throughout the PNM service area." There would only be one transmission line, export of the bulk of the power to states to the west is likely, and 70% of

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PNM has recently released statements to the public and documents to the Public Service Commission confirming that it does not intend to begin construction of the plant until 1991 or later, that it does not intend to bring the first unit on line until 1995, that it only intends to use 600 megawatts of the 2000-megawatt plant, and that it only intends to build one transmission line and that not until 1997 (New Mexico Sun, articles of November 21, 1982, and February 13, 1983; PNM System Expansion Plan, Bulk Generation, December 1982; PNM System Expansion Plan, Bulk Transmission, February 1983). Moreover, most of this information could have been deduced from an independent analysis of PNM's submittals to BLM during the EIS process. PNM had stated to the PSC before the EIS process began that it only desired 600 megawatts of the NMGS project. An independent analysis of PNM's submittals to the BLM (Marcus, October 1982) demonstrated that PNM had no need for the plant until 1994 at the earliest, and that PNM's forecasts for BLM had been inflated and exaggerated by including needs which PNM does not serve, omitting resources available to PNM, and relying on unrealistic assumptions for growth in per capita electricity use.

The attached memo "Specific PNM Misrepresentations to the BLM" and letter of March 9, 1983 from Dave Marcus and the Committee on Coal to the BLM State Director detail the differences between PNM's actual plans and the scenario envisioned in the DEIS. As a result of this great change in the conception of the project, the DEIS is riddled with false statements and outdated analysis. The timing and rate of job creation and population growth analyzed is wrong, the analysis of alternatives to the project is hopelessly incomplete, and the omission of any discussion of any means to mitigate or reduce airborne emissions is inexcusable.

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the electricity would go to areas outside the PNM service area.

"The first generating unit could be required for commercial operation in 1990." Impossible, as PNM has stated it would not be needed until 1995 or later.

"The 500 kV loop connecting with F-C-A-P would be in service in 1990." PNM's most recent system expansion plan shows that the FCAP loop is not planned until 1995.

"The first transmission line would be in service in 1993...the second in 1998." These statements are contradicted not only by PNM's system expansion plan of December 1982, which shows the first line in 1997 and no second line, but by page 1-26, which shows the lines in service in 1988 and 1994.

Both the discussion of need in Chapter 1 of the DEIS and in the Purpose and Need Technical Report betray great credulity on BLM's part (see attached "Specific PNM Misrepresentations to the BLM"). The graph of Figure 1-1 displays 5 PNM demand forecasts, with the implication that they bracket PNM's expected needs. Incredibly, PNM's most recent (10-82) demand forecast contains a "high" forecast which is about the same as the low forecast shown in this graph, and a low forecast which remains below the "Existing and Planned Capacity (excluding NMGS)" line for the rest of the century.

The needs of New Mexico Electric should be deleted from the analysis of PNM need (DEIS p. 1-2), as PNM is not interconnected to NME and the PSC denied a merger of NME with PNM in December 1981.

BLM allows PNM to allege that "PNM states that it 'believes [the strong

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growth scenario] is the realistic scenario upon which to develop long-range expansion plans" (p. 1-2). In fact PHM's long range expansion plan is the System Expansion Plan, which is based on the official Load Growth Documents presented to the PSC. When asked in a PSC proceeding in August 1981 about discrepancies between load forecasts submitted to BLM and official Load Growth Documents submitted to the PSC, R. Cainski of PHM stated that the LGO was the official forecast, and that the higher forecast submitted to BLM was "prudent" and intended to "get the regulatory requirement out of the way". "I mean why not get the permitting process out of the way, and get the land and water and those things, and we can review our load forecast a year or two from now to see if we still want to go ahead with this particular plan", Mr. Cainski said when discussing the disparity between the BLM and LGO forecasts (Case 1577, Transcripts 8/12/81, p. 85).

Most alarmingly, in the Purpose and Need Technical Report, Woodward-Clyde and by implication BLM accept as "reasonable" PHM's explanation that discrepancies in these forecasts can be explained by "more recent information and developments" ("Purpose and Need", p. 6-17). For the last five years, predicted peak demand in every successive Load Growth Document has been lower, and 1981 and 82 were no exception.

In response to Freedom-of-Information Act requests for several of the documents referenced in the Purpose and Need and Alternatives Technical Reports, and listed in section D of the EIS, BLM responded that "BLM does not have a copy and has not reviewed or even seen the document." In response to requests for other documents BLM produced only a cover letter indicating the documents' transmittal to Woodward-Clyde. These reports include reference 24 on page D-1; references 28, 29, 31, 33, 34, and 35 on p. D-2; and reference 49

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on p. D-4. These documents probably contain material very important to the question of whether PHM or Woodward-Clyde generated the assumptions and conclusions in these two technical reports. If BLM has in fact not seen them, then any BLM review of these reports' conclusions must have been superficial at best. Furthermore, these reports are important to public review of the same questions. The regulations state that agencies shall "Make environmental impact statements, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act... (§1506.6 (f)).

BLM cannot claim that the PSC has had any significant role in the analysis of need for the plant in these environmental statements. When SWIC asked in a freedom of information request for any "memoranda, analyses, agreements, reviews, minutes of meetings, or memoranda of phone conversations between BLM and the New Mexico Public Service Commission (PSC) related to the PSC's role in the writing of the New Mexico Generating Station EIS or its Technical Reports", the materials produced in response did not contain one document written by PSC personnel.

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Definition of alternatives

A most serious flaw in this EIS is that the alternatives are defined from the point of view of a PHM decisionmaker in terms of PHM's needs, or in terms of PHM's compliance with regulatory hurdles, rather than from the point of view of a government agency making a decision with significant environmental consequences. BLM cites PHM on the "purpose of this phase of the New Mexico Generating Station", presumably the EIS process, being "to provide the management of Public Service Company of New Mexico (PHM) with sufficient information to assess the risks and benefits of developing a coal-fired generating station" (1-1). This statement betrays a basic misunderstanding of the EIS process. If PHM is going to fund a study to help it make a decision, there is no reason to go through the EIS process, because the EIS process is intended for the use of a federal decisionmaker. Hopefully it is BLM and not PHM here that is hoping to assess the risks and benefits of a coal-fired station. In any case, this DEIS does not contain significant analysis of any alternative to building a coal-fired generating station, and only vague and error-ridden analysis of alternative sites for the plant.

The treatment of the "agency's preferred alternative" (which BLM is required to identify if a preferred alternative exists: 43 CFR 1502.14 (e)) gives rise to some doubt as to whether BLM sees this DEIS as dealing with the question of alternatives to the plant. On p. 1-42, BLM merely states which transmission line (T5, T3, T2) and pipeline corridors (P-1) it prefers. If BLM has a preference between Bisti and another site, or between building the plant and not building it, it is not stated here. Does BLM prefer the New Town as an alternative? If not, how can it permit the Ute Mountain land exchange?

The CEQ regulations implementing NEPA state that the section on

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"alternatives including the proposed action" is "the heart of the environmental impact statement...it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public" (43 CFR §1502.14). Furthermore, agencies shall "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (§1502.14(a)), and "Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." (§1502.14 (c)).

Tables S-1 and S-2 of this EIS offers a multiplicity of alternatives, many of which are alleged to have been selected for analysis. However, not one alternative, except for perhaps the pipeline and transmission line route alternatives, is presented in enough detail anywhere to allow it to stand alone and be compared to PHM's desired proposed action. Not one alternative to a coal plant at Bisti is presented in enough detail to support a credible record of decision on the environmentally preferred alternative (§1505.2 (b)). In some cases, the level of "analysis" given for those alternatives which were allegedly analyzed in detail does not differ from the level of analysis for those alternatives which were not analyzed in detail. Some alternatives allegedly analyzed simply were not analyzed in this EIS. They are "phantom" alternatives.

Alternative coal sources are an example of such a "phantom" alternative. The source of the coal should be an important issue, since it is so important, to the choice of the power plant site and to the cumulative environmental

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impacts. Table S-1 alleges that BLM considered the alternatives of "other San Juan Basin coal producers" and of "coal sources outside the San Juan Basin" and selected "other San Juan coal producers" for analysis. However, no analysis whatsoever can be found in this EIS of even the existence of other San Juan Basin coal producers. A sentence in an appendix states that coal from outside the San Juan Basin was eliminated from detailed analysis because it "would cost significantly more to deliver to the proposed plant site than San Juan Basin coal because of mining and transportation cost" (A-5). Thus BLM refuses to present any analysis, either of the alternative it allegedly selected for analysis or of the one that it did not. One is left with the impression that the contents of Table S-1 are for the most part just window dressing, put there to fool the casual reader of the Summary and/or Chapter 1 that some serious analysis exists somewhere of alternatives to the project, let alone of their environmental implications.

The discussion of alternative sites is based on a Woodward-Clyde re-analysis of a siting study it did in 1974-77 for PHM and El Paso Electric. (Woodward-Clyde, 1976). In this reanalysis, Woodward-Clyde found a site in Torrance county to be environmentally preferable to Bisti, but found Bisti to be preferable to Torrance County and McKinley County sites when "a combination of environmental factors and cost was considered". However, a review of this siting study done for SRIC (Marcus 1983) shows that the cost figures were based on outdated assumptions for transmission line needs, were based on the use of Bisti coal, and undervalued air quality considerations. Thus BLM should not use this Technical Report on Siting as an excuse for slighting analysis of the alternative sites in this OEIS.

In fact, the discussion in this OEIS of the alternative sites is

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worthless to a decisionmaker. For one thing, the OEIS contains no map of the sites and no mention of their township-range section location. It contains contradictory information about the McKinley site, stating that "Hospah is located about 11 miles due northeast" (3-46) and that "Chaco Mesa is east to northeast of the site at a distance of about 10 miles". Chaco Mesa is northeast of Hospah so these descriptions cannot apply to the same site. The EIS asserts, regarding the McKinley county site, that "There are no known plans for development of these resources [coal and other mineral resources in the site area] in the near future." (3-44) when there are three permitted coal mines in the general vicinity (Star Lake, Hospah, Lee Ranch), one of which (Lee Ranch) is open and seeking customers. Likewise, the OEIS contains faulty and/or contradictory descriptions of the location of the Torrance site: Abajo and Quarai ruins are said to be respectively ten miles southwest and four miles west of the site on p. 3-44, putting it about a dozen miles east of Manzano peak, while p. 3-40 puts it seven miles southeast of Manzano peak. To cap this sequence of errors, PHM, in a 1977 comparative evaluation of power plant sites, chose a Torrance county site over 40 miles east of Manzano peak, which would avoid the air quality problems due to unfavorable terrain mentioned in connection with the Torrance site or sites in this OEIS (p. 3-40). We conclude that since BLM did not conduct enough review of alternative sites to catch these discrepancies, it did not give serious consideration to alternative sites.

CEQ regulations state that the EIS will "include the alternative of no action" (40 CFR 1502.14). This OEIS does not honestly address the impacts of the situation where neither NMGS nor any other energy facility is built, except for one sentence on p. 3-49, "If NMGS were not constructed and

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operated, the impacts associated with it would not occur". This is not a serious discussion of the impacts. Would economic and population growth occur anyway? Would the lights go out? Would the Navajo tribe build a power plant? Would the Joint-Use-Area people be resettled in the plant site area? Would the Fossil Forest, Bisti and De-Na-Zin be made part of a National Monument?

P. 3-49 to 3-52 and Appendix A go on to give a grudging and gloomy list of unattractive and unappealing energy options. The analysis of these options, as discussed in the Alternatives Technical Report, assumed that viable options had to produce a "significant" fraction (5%) of the 2000-mw NMGS, and be available by 1990. A more proper criterion would be whether they could produce a significant fraction of PHM's 600-mw share by 1995. Coal conversion plants are disparaged as having worse environmental impacts than direct combustion, without any supporting evidence. BLM concludes that environmental effects of power plants built outside New Mexico would be "similar" to those of plants built in New Mexico (p. 3-50), while not acknowledging any differences in culture, economic infrastructure, air quality standards, tourism, parks, wildernesses, or anything else. The OEIS dismisses the alternative of conservation, the most likely, most inexpensive, and environmentally most attractive "supply" option for the late 1990's, with one sentence: "The environmental effects of conservation are minor" (p. 3-51).

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New Town

BLM denies that the new town (the "Possible New Town" of the title) is "part of the NMGS proposal" (p. 3), but it includes a short discussion of the town between Chapters 3 and 4 of the OEIS, apparently as a form of NEPA insurance so that it may argue that the Ute Mountain Land Exchange may proceed after this OEIS. However, as PHM is seeking four sections of land for a town site, a reasonably foreseeable consequence of the BLM action of granting the exchange is the building of the town. This action must be addressed fully in an EIS, either this one or another one as BLM wishes, before the land exchange is carried out. The 16 pages on p. 1-1 through III-5 are absolutely insufficient for this purpose. The siting of a town of up to 20,000 Anglos, the second largest town in Northwest New Mexico, in the midst of traditional Navajos would have very severe social impacts.

What possible future industrial developments does PHM envision and where would the water to supply them come from? (p. 1-1) If access to a new town would be through existing roads, why does PHM hold out the prospect of a future EIS on ROW's for the town? (1-1) If 2000 people would only be the "initial population" of the town, why does BLM not conduct a worst-case analysis based on the reasonably foreseeable population of the town (III-1)? How can the Westwater member of the Morrison Formation supply water for the town (III-2) when it has total dissolved solids exceeding water quality criteria for livestock watering and irrigation (p. 2-31)?

BLM asserts that "The need for the new town has not been established at this time" (III-1). (This is equally true for the power plant.) If NMGS and

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coal leasing take place, however, the purpose of the new town "to accommodate the labor force and their families" (S-11) may be quite a tempting option compared to requiring workers to commute over 30 miles from the city of Farmington, which BLM analysis shows to be already under boom-and-bust strain. The assertion that "The Farmington area...is capable of managing and accommodating projected growth based on the analysis for NMUS" (111-5) seems to contradict the findings of this EIS that "Projected housing demand in 1986-87 exceeds the historical housing construction rate in the Farmington area (J-27), that Farmington schools are "currently overcrowded", and that "human service agencies are operating at or near capacity" (p.2-29).

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Impacts on Native Americans

The discussion of impacts on Native American residents of the area is largely contained in three paragraphs on pages 3-26 and 3-27, with scattered references throughout. This discussion must be made more specific and detailed, and could be based on interviews with residents, testimony at hearings, sociological literature such as Arthur (1974), Robbins (1980), New Mexico Civil Rights Advisory Commission (1982), and others. Testimony at hearings and resolutions passed by several chapters and the Eastern Navajo Land Commission show that a great many residents oppose the power plant in specific terms, and are furthermore reaching a point of exasperation with applications for rights-of-way for powerlines and pipelines. Specific impacts of energy development that could be discussed include increases in mental illness and crime (Williams 1983), problems in jurisdiction of law enforcement agencies in the Checkerboard area, increase in alcoholism, harassment of livestock by people moving into the area, vandalism of range improvements and other facilities, loss of livestock from water pollution and traffic accidents. The EIS does not show Navajo dwellings nor allotments in any map of the plant site or rights-of-way.

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Land use controls and constraints

43 CFR§1502.16 (c) directs EIS authors to discuss "Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies, and controls for the area concerned". The EIS ignores some land use plans and policies of the Navajo tribe and the Chapters.

p. 3-40 mentions that "From the Navajo perspective" the joint-use-area land selection would be perceived as a potential conflict. It is a very definite conflict in the eyes of both the Tribe and the BLM, as BLM's letter to then-Governor Bruce King (attached) calling his attention to the alleged energy impacts of the land selection, indicates. The Nageezi chapter has passed a resolution against power plant development, as has the Eastern Navajo Agency Land Commission.

The DEIS mentions, but does not discuss, the Navajo Tribe's lawsuit under executive order 709 to recover title to 1.9 million acres of the Checkerboard area including the plant site. It does not mention the ongoing lawsuit by the Jicarilla tribe to prevent the Bureau of Reclamation from indirectly allocating San Juan River water to the New Mexico Generating station. It does not mention the conflicts between Indian and other water users in the Southwest arising from unadjudicated Winters doctrine water rights.

The DEIS should indicate the variety of conflicts with BLM's land-management objectives that Ute Mountain Land Exchange proposal represents. The San Juan Chaco Management Framework Plan Update for Coal stated that the land exchange conflicted with preservation of the Fossil Forest, range improvement, preservation of cultural resources on the exchanged lands,

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grazing, and preservation of religious sites. The Management Framework plan states that eight families live on lands selected for inclusion in the Ute Mountain Land Exchange, and the Ute Mountain Environmental Assessment states that nine small ranching operations will be wiped out by the Exchange. Why is information on these impacts not in this DEIS? Does PHM plan to compensate people for loss of grazing?

This DEIS does not mention in table 1-1 whether consent would be needed to obtain rights-of-way from allottees. The Pipeline and transmission line right of way maps do not distinguish allotments.

A history of land issues in the area would be a great addition to all these EIS's, and would put local and tribal views on these projects into perspective. The gradual and often legally questionable taking over of formerly Indian lands by whites is part of a pattern of controversy that continues today. How did Indian quarter-section allotments come to be included in the Paragon Ranch grazing allotment? How did white people come to get the two grazing allotments (Tsaya and Black Lake) involved, and sell them to Paragon Ranch? When did Paragon Ranch acquire them? Are there "unauthorized" dwellings on the Paragon Ranch?

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Water

The DEIS and supporting technical documents do not discuss the design of the water-using components in the power plant. Both water quantity and quality needs are a function of the design of cooling, piping, evaporation, treatment, and storage systems. The need for 35,000 acre feet per year is not supported by any calculations, and quality needs are not discussed. The plant is as yet undesigned.

The legal questions over surface and groundwater availability are left unexplored in this DEIS. It is not explicitly stated in this DEIS whether PNM has acquired water rights for either water supply alternative envisioned-- 35,000 acre-feet from the San Juan River, versus 20,000 acre-feet from the San Juan plus 15,000 acre-feet from groundwater.

The EIS states as an "area of controversy" outside the scope of the Environmental Impact Statement, "Availability of a water source for 35,000 acre-feet per year" (p. 5-11). Why this "availability" was held to be outside the scope of the EIS was not discussed here. It would seem to be quite relevant in terms of the credibility of the applicant's proposed actions, as an impact significant due to its controversial nature (43 CFR 1508.27), especially significant to those whose water rights are likely to be foreclosed or impaired, and as part of the NEPA's requirement for discussion of "Any irreversible or irretrievable commitments of resources" (402 (c) (V)). BLM should not defer to the State Engineer on questions of water availability, for several reasons. For one reason, the State Engineer is not a "formal cooperating agency" (table 4-5), joint lead agency, or otherwise in any way responsible for this DEIS. For another reason, Federal agencies also have

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baseline expected flow without NMGS but including other expected projects during a reference critical period is a summer average of 380 cfs and winter average of 342 cfs at Archuleta, New Mexico. 48 cfs, the expected diversion for NMGS, is respectively 12.6 % and 14% of these flows. Thus the diversion comes close to being "significant" by BLM's measure. The argument that there would be no net change in streamflow due to increased reservoir releases during drought years (EIS p. 3-28) does not take into account any impacts on the reservoir (recreational, fish, or other impacts) from these increased drawdowns. The discussion of the affected hydrologic environment (2-8) should discuss hydrology of the San Juan River, low flow effects, and long-term flow trends.

The discussion of pipelines (p. 1-17 to 1-21) does not address evaporation from ponds. Evaporative losses may be over five acre-feet/year per acre of pond, or 1000 acre-feet/year for a 200-acre pond. Alternative pond and plant designs (especially cooling system designs) could result in greatly decreased water needs and should be discussed as mitigation measures for water conservation. Although wet-dry cooling towers are designated in table 5-1 as being selected for analysis, they represent a "phantom" alternative as no analysis of their environmental merits can be found. San Juan 3 is a wet-dry cooled plant operating in the area, but no reference can be found to experience with this system.

A discussion of the priority and controversial status of PNM's and UI's applications for San Juan water rights would be appropriate on p. 2-30 as part of an assessment of whether the proposed action is feasible. Apparently one has to go to the Hydrology Technical Report to discover that PNM hopes to acquire 20,000 acre feet from Utah International's contract for water for the

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responsibility for allocation of San Juan River water, as well as trust responsibility for Indian users, and in fact the Bureau of Reclamation disagrees with the State Engineer over the amount of water available from the San Juan River (p. 2-30).

Nowhere in this EIS or in the Cumulative Overview is there a description of total cumulative impacts from water use for the planned developments in the San Juan Basin. For surface water these would include total withdrawals from the San Juan for NMGS, growth in Farmington area cities and Gallup, and any coal gasification plants implied by the projected coal consumption levels. For ground water these would include total withdrawals from deep aquifers for 15,000 acre feet for NMGS plus the New Town, planned coal and uranium mines, the Escalante power plant, plus existing users. Effects of groundwater withdrawals on surface flows and vice versa would also have to be discussed in a worst-case fashion. The withdrawal map on p. 3-29 does not show total drawdowns due to existing and projected groundwater uses. Such a map is on p. 4-28 of the Hydrology Technical Report and should be moved into the document itself.

Surface Water. The discussion of impacts of plant operation does not discuss drought period impacts downstream on the San Juan River from the diversion of 48 cfs of water (3-28). No discussion can be found of impacts on fish and wildlife, vegetation, or river recreation downstream, nor on recreation or other impact from drawdown of Navajo reservoir during drought conditions.

It is held that this diversion does not represent a "significant" impact because it represents less than 15% of average streamflow during critical dry period. However, as shown by p. 3-21 of the hydrology technical report, the

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defunct Wesco gasification plant, and another 15,000 acre feet through an "informal application" to the New Mexico State Engineer. It should be made clearer what the significance of differing estimates for low flow or base flow in the San Juan are; BLM has received scoping comments saying the San Juan River is overallocated (p.4-3) and a discussion of this controversy would be proper.

What are the "unspecified industrial uses" to which PNM wants to devote the other 25,000 acre-feet of water it has informally applied for? (Letter from C. W. Luscher to Alison Monroe, March 18, 1982). If synfuels plants, aluminum plants, or other projects have reached the stage of applying for water for "beneficial use", they should be discussed as part of the cumulative development planned for the area.

The EIS does not discuss impacts on other San Juan river right holders such as the Jicarilla and Navajo tribes. The Jicarillas have filed a lawsuit to prevent Bu Rec from renewing UI's contract for San Juan water rights for its defunct WESCO gasification plant; this action may greatly complicate the NMGS proposal as may Winters' doctrine rights or other legal actions by the Navajo tribe. There are many legal questions regarding appropriations from the San Juan River that may affect the Navajo Indian Irrigation Project; as the Hydrology Technical Report states, Congress must approve long-term contracts from this river (Hydrology p. 3-9). See attached comments on the renewal of this UI contract by the Rio Grande Chapter of the Sierra Club and the Committee on Coal. The Hydrology Technical Report allots to the Navajo Indian Irrigation Project only half of the water set aside for it by Congress.

The Hydrology Technical Report chooses not to include the proposed Gallup-Navajo water supply project among potential San Juan users on the

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rather arbitrary basis that no right-of-way applications had been filed with the BLM as of July 1981. However, the New Mexico Interstate Stream Commission has committed 8,000 acre feet per year to this project (Hydrology p. 3-19).

Ground Water. No groundwater has yet been withdrawn from the proposed aquifer, the Westwater Canyon member of the Morrison Formation, near the plant site, where it is over a mile deep. Water quality in the Morrison tends to decrease with depth. Water requiring elaborate treatment has been withdrawn from the Morrison some 25 miles south of the plant site at a depth of 3500 feet at the Phillips-Nose Rock uranium mine. The DEIS states that water from the nearest Westwater well to the proposed well field, the Apache Foshay test well, would require treatment before its use as boiler feedwater and cooling water. What sort of treatment? What would be done with the treatment effluents? Where is the Apache Foshay well?

Water users at Crowpoint and elsewhere in the Basin, and at springs in the Chuska mountains would have their water rights impaired and would require expensive multigenerational "replacement plans" under New Mexico water law. No discussion can be found of how this would affect NMGS water use. The existence of PNM's subsidiary's (Paragon Resources) application for groundwater rights (p. 1-17) is less important than the timing and seniority of the application, the replacement plan needed to obtain any allocation of rights, and the quality of the water.

Paragon has applied to the BLM for rights-of-way to 16 well sites related to its application for 40,000 acre-feet of groundwater. Why is there no map of locations of these wells, showing what features such as residences, wilderness study areas, cultural, or paleontological sites will be affected? Why is this application not considered on a level of detail consistent with

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needed; this water will have to be treated to remove dissolved solids and waste waters. Wastewater will have to be treated and discharged with unknown impact on users of shallow groundwater in the the Chaco drainage (p. 111-2).

Magnitude of flood flows in Ue-Na-Zin wash should be discussed, and their possibility for causing discharges. No discussion of USGS data on flood flows in this wash can be found.

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the rest of the proposal to BLM for rights-of-way? Even if PNM does not use the water for the plant, it apparently wishes to develop the water for industrial uses.

The DEIS discusses the "beneficial impacts" of reducing dewatering needs for the uranium industry by 5%, which are judged to be "significant", but cannot determine whether reduction in flow to springs in the Chuska mountains on the Navajo reservation exceeds 15% and is thus "significant" (3-30). There is no discussion of whether impacts on Indian ground water users at Crowpoint or on the Jicarilla reservation are "significant". Why does the DEIS concern itself with benefits to the uranium industry, presently dormant in the San Juan Basin, when Indian tribes in the area have gone on record (at the January hearings and elsewhere) as having strong concerns about the proposed diversion of water from their uses, and when DOI has trust responsibility through BIA for supporting such concerns?

Discharges. Solid and liquid wastes from the plant and their characteristics "can be only broadly categorized at this time"(8-3). In fact these wastes are only alluded to in a few scattered paragraphs in appendix B. Zero discharge is PNM's "objective", but if this cannot be maintained PNM will file a discharge plan. No discussion is given of what PNM would discharge under any conditions, including the worst case conditions required by the regulations (1502.22(b)). The San Juan Plant was proposed to have no routine discharges when it submitted a discharge plan to the state in 1980, but is now accused of polluting arroyos and wells with salts from scrubber waste discharges (Albuquerque Tribune, 3-23-83, p. 0-1).

The discussion of water issues for the New Town (1-2, 111-2) is scanty in the extreme. 4,500 acre feet of water from the Morrison are estimated to be

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Air Quality

BLM finds that visibility impacts from NMGS on San Pedro Parks and Mesa Verde National Park would be neither frequent nor significant (3-2). It also finds that the plume of smoke would cause "highly perceptible discoloration" as viewed from Chaco Park 1-2 mornings per year, and that its contribution to regional haze visible from Chaco Park would not be quantifiable (3-3, 5-6, 5-7). The National Park Service Air Quality Division found in a critique of the Air Quality Technical report that it was "not really very useful" because it did not analyze generalized haze impacts as opposed to plume impacts on visibility, and because it analyzed only impacts on average visibility as opposed to impacts on visibility on the clearest days (up to 160 miles according to the Coal DEIS p. 2-2). National Park Service at a scoping meeting in March 1982 offered to assist BLM in quantifying regional haze impacts on visibility at Chaco, but if any assistance was solicited from NPS this DEIS does not mention it. Why is it that visibility impacts cannot be quantified?

No impacts on plants and vegetation are mentioned in chapter 3 other than impacts on threatened and endangered plants through "acid rain". Many common plants are adversely impacted by SO₂ at low levels, even at levels expected within a few km of plants in compliance with NSPS standards. "Plume touchdowns" or occasional high levels of SO₂ can burn foliage. Furthermore, there is evidence for synergistic effects of SO₂ and NO_x causing tissue damage (OTA, 1979, p.220-221).

Impacts on health and general welfare are held not to occur below ambient air quality standards (3-1). This assertion is not supported by any explanation or references. In general, a simple assumption that a facility

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will comply with regulations would not be sufficient as a determination of lack of significance, or as a discussion of environmental impacts, under CEQ regulations. Section 1508.27, defining "significantly" under the regulations, gives ten measures of intensity that "should" be considered: whether an action threatens to violate laws or requirements is only one of these measures (1508.27(h)(10)); others include "the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks" (1508.27 (b) (5)) and "the degree to which the possible effects on the quality of the human environment are likely to be highly controversial" (1508.27 (b) (4)).

What would be the impacts of air pollution on archeological sites, for example on mortar used in Chaco ruin walls, or on petroglyphs? What would be the impact of heavy metals and radionuclides emitted into the air on vegetation and the grazing food chain?

The EIS states (p. 3-1) "Currently there are not cause-and-effect relationships between coal-fired power plant emissions and acid precipitation effects." This assertion is contrary to the preponderance of non-industry opinion--witnesses from a variety of governmental and academic bodies testified at a Congressional hearing on acid rain that power plants were major contributors to SO_x and NO_x emissions, which in turn were the ultimate source of acid rain (Hearing before the Senate Committee on Energy and Natural Resources, May 28, 1980, Effects of Acid Rain). The DEIS should discuss this information and areas of disagreement before endorsing the industry's extreme position. Furthermore, the Air Quality Technical Report states "The National Research Council Committee on the Atmosphere and the Biosphere reported that the circumstantial evidence for the role of power plant emissions on acid rain

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units 3 and 4) and California utilities agreed that 80% NO_x control should be feasible in the Cal Coal power plant proposed for 1990 (Dave Marcus, personal communication).

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was overwhelming (Air Quality, p. 4-71).

No description of the models and input assumptions used is available in pages 3-1 to 3-8. Based on a review of the Air Quality Technical Report, the New Mexico Citizens for Clean Air and Water found that the EIS uses inappropriate and outdated models and assumptions for determining pollutant concentration. The "RTDM" high terrain model with 35% plume override should not be used, since this procedure was discarded by the National Commission on Air Quality's Panel on Atmospheric Dispersion in favor of a new model which gives more realistic downwind concentrations. NMCCAW states that the flat terrain model used also underpredicts concentrations of pollutants.

Under "Cumulative Impacts" the EIS states that "in a few small areas close to both NMGS and SJRRCL mines, there was concern that low-level dust concentrations would combine to yield concentrations that would exceed prevailing standards". What would be the health, environmental, and regulatory impacts of such a situation? Would there be a problem in getting air quality permits for NMGS in such a situation? Would tradeoffs be required? Would different particulate control technology be required?

This DEIS gives no specific information on technologies that are available now to reduce sulfur oxide and nitrogen oxide emissions, nor on breakthroughs that may be expected to reduce costs for these measures. As the plant is not to begin construction for eight years or more, a wide range of novel techniques should have been referred to, including sulfur and nitrogen oxide controls in use in Japan. No alternative techniques are "selected for analysis" (table S-1) to reduce the planned sulfur oxide emissions beyond 80% reduction, and the planned nitrogen oxide emissions beyond approximately 30% reduction. Units under construction today plan 96% sulfur control (Colstrip

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Economic Impacts

Since the plant's construction schedule has been both delayed and compressed into a shorter timespan, estimates for both the timing and peak magnitude of employment are erroneous (p. 1-20, 1-26). Boom-and-bust impacts of cyclic employment will be worsened.

The DEIS decides to define Crowpoint and Shiprock as outside the area of significant impact, although Crowpoint is about as close to the proposed project as Farmington is, has trailer vacancies, and has hospital and social services already strained to capacity. Hospital services in Crowpoint are not open to non-Indians.

No discussion of the mental stresses and health impacts of boomtown life is given, although literature drawing on Northern Plains coal development experience does exist. BLM cannot assume that coal and NMGS employment needs will come on line smoothly to take up slack in present unemployment in the area, since neither will be available on the schedule envisioned.

The DEIS does not estimate costs to the State or to Federal agencies responsible for Indian welfare for such services as roads, police, public assistance, hospitals, and schools required by development.

Mitigation

The regulations require discussion of "means to mitigate adverse environmental impacts" (§1502.16(h)). As noted above, no discussion of enhanced air pollution control technology or alternative cooling systems can be found. The "applicant committed practices" for mitigation (p. 1-27 to 3-"

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59) are so hedged in with disclaimers such as "where possible" and "where appropriate" as to greatly dilute their usefulness. A "commitment" from a company that has not been sincere with BLM on the issue of need for the plant should not be weighted heavily in decisionmaking. The idea that reprimands will mitigate unauthorized collection of fossils and artifacts may not be realistic. Fransted (1980) reports that Hoyback area residents accuse APS power plant and mine workers of disturbing ruins and collecting artifacts.

The section on "Unavoidable adverse impacts and irreversible or irretrievable commitment of resources" (one paragraph, page 3-59) appears to assume that mitigation measures "suggested" in 3-60 to 3-63 as well as the "applicant committed practices" in Chapter 1 will be implemented. However, no binding commitment has been made to any of these measures.

Consultation and Coordination.

We must emphasize that the CEQ regulations do not direct EIS authors to ignore controversial questions, but rather the opposite. Controversial issues this EIS evades responsibility for include water availability, need for power, and indirect effects of air pollution. As stated in our comments above under Air Quality, a discussion of compliance with regulations or emission limits does not suffice, and as discussed in the attached letter from Monroe and Isbell-Sorotkin to Leslie Cone of November 24, 1981, the fact that another state or federal agency may later have to deal with a certain issue does not waive the lead agency's need to discuss it in an EIS.

Chapter 4 provides a list of "cooperating agencies" (p. 4-5). Some of these, such as the Public Service Commission, are identified as "informal cooperating agencies". Some of these, again including the Public Service

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needed to support its conclusions, instead of wasting space on material such as Appendix D. As noted above, several of the references listed in Appendix D are not available to the public.

Cumulative Impacts

As expressed in our comments on the Cumulative Overview and the Coal Leasing OEIS, none of the reports on the San Juan Basin Action Plan amount to an impact statement on the cumulative impacts of BLM's plans for the area. Neither this report nor the Cumulative Overview deals with cumulative impacts on ground or surface water. No report gives more than cursory attention to cumulative impacts on Native Americans in the area. No report discusses the total range of proposed and foreseeable development including the New Town and proposed industrial developments.

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Commission, reviewed technical reports but did not provide any comments. Some of these, such as the State Engineer, commented on technical reports but reportedly only provided a written statement that they had no comments. Such a role for a "cooperating agency" is rather far from the CEQ's conception of a cooperating agency's role (43 CFR §1501.6) (a) (2). The lead agency shall...use the environmental analysis and proposals of cooperating agencies...to the maximum extent possible with its responsibility as lead agency". The function of this table may be to lend support to the BLM's assertion, made at public meetings over the last year or so, that BLM did not have to tackle two of the most controversial issues affecting the plant-- whether it was needed and whether there was water available for it--on the grounds that this was the jurisdiction of state agencies who were the "lead agencies" for such questions, although these agencies have had no significant influence on BLM's analysis or conclusions.

BLM should note on p. 4-4 that the Bureau of Indian Affairs and the National Park Service (cooperating agencies) as well as the Eastern Navajo Agency land commission have gone on record in August and September 1982 as favoring the "no action" alternative.

Tech reports

The 21 technical reports put a burden on reviewers of the EIS through their sheer bulk and their expense (\$75 for an entire set to entities other than public libraries). While some are merely boilerplate (e.g. Land Use Controls and Constraints), others contain the real meat of the analysis used to justify the OEIS's most controversial conclusions (Purpose and Need, Air Quality, Hydrology). The OEIS should have contained more of the analysis

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April 8, 1983

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State Director
Bureau of Land Management
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Dear Mr. Luscher:

Enclosed are joint comments by the Committee on Coal, the Rio Grande Chapter of the Sierra Club, the New Mexico Audubon Council, and the Taos Environmental Association on the Draft San Juan Basin Cumulative Overview. While this document is not an Environmental Impact Statement, we are submitting comments in response to BLM's request.

We do not at all feel that this document fulfills BLM's need for a comprehensive environmental impact statement on its San Juan Basin Action Plan to develop coal in the San Juan Basin. Nowhere in BLM's planning process has there been serious consideration of alternatives for development or preservation of this area BLM has so much responsibility for. The Chaco-San Juan Management Framework Plan Update for coal identified no alternatives and did not assess the impacts of the decisions made therein--decisions in many cases inconsistent with the analysis in the document and with other BLM analysis. This Cumulative Overview does not identify any alternatives to the proposed development, such as lower levels of coal leasing, or development of the area as a Native American ranching/scenic/scientific study area.

Furthermore this Cumulative Overview is not adequate as an appendix to the other environmental impact statements on cumulative impacts. It does not even identify worst-case impacts on groundwater from combined power plant and coal development. It does not include all impacts from past and reasonably foreseeable future development in the area. Most important, it devotes only two paragraphs of shallow analysis to cumulative impacts on Native Americans, in an area where every family is sure to be affected by one or another aspect of coal, power plant, power line, pipeline, road, railroad, oil, gas, uranium,

and New Town development, and where hundreds of people have attended hearings to express their near-unanimous opposition to the developments.

We urge BLM to rewrite the land-use plan so that it complies with the requirements of the Federal Land Policy and Management Act, and to accompany it with an Environmental Impact Statement addressing BLM's plan for development of the area (including the San Juan Basin Action Plan) and a full range of reasonable alternatives. Thank you for your consideration of these comments.

Sincerely,

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Jonathan Teague, for the
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COMMENTS

DRAFT SAN JUAN BASIN CUMULATIVE OVERVIEW

SUBMITTED BY THE COMMITTEE ON COAL
THE RIO GRANDE CHAPTER OF THE SIERRA CLUB
THE NEW MEXICO AUDUBON COUNCIL
AND THE TAOS ENVIRONMENTAL ASSOCIATION

APRIL 8, 1983

Compiled by Alison Monroe of Southwest Research and Information Center, with help from many others

Scope

The Bureau of Land Management's "San Juan Basin Action Plan", a group of proposed actions (coal lease sale, Preference Right coal leases, Bisti coal lease exchange, Ute Mountain Land Exchange, New Mexico Generating Station power plant, land use plan update) under consideration since late 1980, requires an environmental impact statement. The Council on Environmental Quality (CEQ) regulations state that the "Adoption of programs, such as a group of concerted actions to implement a specific policy or plan" is a "major federal action" (43 CFR 1508.18). In addition, the Supreme Court decision in Kleppe v. Sierra Club found that regional plans required an environmental impact statement.

Clearly BLM decided a while ago, as has become evident especially since the land use plan was adopted, to make mining and industrial development its top priority in the area between Farmington, Cuba, and Crownpoint. Nearly every other planning consideration--wilderness, grazing, preservation of graves and sacred areas, legitimization of Navajo occupants, archeological and paleontological study--has been subordinated to coal under this policy. No EIS or environmental assessment was done on the land use plan, which analyzed no alternatives. The Star Lake-Risti EIS of 1977-79 was not adequate as a regional statement, as it did not give serious consideration to alternative development policies, and was lacking in detailed information on the area. Hence, a regional environmental impact statement on BLM's San Juan Basin

Plan is necessary at this time.

At one time it was envisioned that the document would analyze different levels of coal production (Action memorandum NMSO-BI-228) but the present version only discusses the preferred versions of each preferred alternative, and does not discuss the future of the area under a No Action Alternative.

The document makes reference to a Federal Register notice of September 10, 1982 in which "Some minor points were amended" (p. 1-7, 1-8). In this notice, it was announced that although previous notices had described the CO as an EIS, it would not be an EIS. This downgrading is by no means a minor point. The CEQ regulations give specific requirements for scrutiny of alternatives, interdisciplinary analysis, worst-case analysis, mitigation, comment, conflicts interest, and other important areas, which BLM may argue no longer apply.

The Draft San Juan Basin Cumulative Overview is not an EIS. It does not identify nor analyze alternatives to the proposed action. It does not use the interdisciplinary, broadbased mandate of NEPA to explore the whole range of choice facing federal decisionmakers, and thus gives no inkling of the range of alternative futures foreclosed by BLM's bias. What if BLM were to manage the area as a recreational/scientific study area, with a focus on tourists and hikers? What if BLM were to encourage small-scale development of coal, with emphasis on local use of the resource? What if BLM were to become an advocate of "appropriate development", meeting regularly with residents and relying on their advice for the setting of BLM's management priorities? BLM has steadfastly refused to face up to the implications of its bias towards mineral development over every other use of the land, and the lack of concrete

discussion of any real no-action alternative with regard to development in any of the environmental documents issued in November 1982 is part of this pattern.

Our comments here are not as detailed as they might be if the document were a full EIS; we merely point out some important areas which a real EIS should cover, and which have been raised in written comments and in hearings over and over again. Basically this document summarizes impacts from the three DEIS's and adds some generalities. The device of splitting off the analysis into a "Technical Report" must be strongly discouraged, especially since the Technical Report in this case does not contribute much analysis and background, but for the most part more conclusory material and generalities.

We can find no case where a combination of non-significant impacts was determined to be significant in this Cumulative Overview. In the case of air and water impacts, the Coal EIS found them both to be significant, the NMGS EIS found them both to be insignificant, and this CO analyzes air impacts but not water.

The assertion (p. 1-10) that NMGS will have no significant impact on air quality or hydrology is contrary to common sense and results from an artificial definition of significance. PNM's belief at this time that it will not violate regulations or laws, or remove more than an arbitrarily defined percentage of water from the San Juan River, is accepted as a finding of insignificance. Uncertainty, controversy, and impacts on parks and cultural resources are given in the CO regulations as indicators of intensity and significance (1508.27 (b)).

The proposed actions (pages 1-4 to 1-6) do not include the New Town,

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Station DEIS Appendix C may be what is referred to. We have some questions about the consistency and appropriateness of this baseline. Do baseline economic projections include a revival of the uranium industry? Are all the baseline coal mines counted in BLM's "no action" leasing alternative?

Water

Why does this document not discuss cumulative impacts on water? Scoping comments show water allocation to be of great controversy. The Jicarilla tribe has filed a lawsuit which may block allocation of surface water intended for the plant, and the proposed supply of groundwater to a much smaller power plant in the area (the Plains Escalante plant) has run into controversy due to replacement requirements. If the plant attempts to obtain significant water from the Morrison formation, it will have to compete with several planned coal mines as well as uranium mines and domestic and ranching users. Furthermore the New Town plans to obtain its water supply (4,500 acre feet) from the Morrison. PNM is applying for 40,000 acre feet of groundwater, partly or perhaps totally for "unspecified industrial development". These massive withdrawals from the Morrison will affect other aquifers as well.

Recharge/discharge relationships of groundwater withdrawals with San Juan river water flow need to be discussed, as do cumulative impacts on shallow alluvial aquifers used by many residents of the area. These aquifers are at risk from spills, discharges, floods, and changes in erosion rates caused by development.

Total demands on the San Juan River must be addressed, including needs for coal-development-related growth in Aztec, Blomfield, and Farmington

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which is logically part of the BLM proposal, as BLM is to trade land to PNM for the site of a New Town. Furthermore they do not refer to coal gasification plants, which are included in the DOE Coal Production Goals as consumers of 10 million tons of coal from New Mexico. Two gasification plants have been proposed in the area in the past, and if BLM is to use the production goals to justify a demand for 59 million tons per year in 1990 and thus justify new leasing, BLM should consistently follow through its analysis.

The actions do not include PNM's aluminum smelting plant. (PNM justified mining claims for aluminum associated with coal beds in the area on the grounds it had a proprietary process to convert coal ash to aluminum profitably). Unspecified industrial development, which PNM is considering in conjunction with the New Town and with applications for groundwater (see our comments on the New Mexico Generating Station DEIS), is not discussed. In fact, baseline development of any kind not directly resulting from the San Juan coal proposals, such as uranium mining, oil and gas exploration, and pipelines, is not described with any concreteness in this EIS. The regulations define "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (43 CFR 1508.7.)

The baseline used for calculation of impacts ought to be made explicit and justified. No list of baseline projects seems to appear in this Cumulative Overview. The list that is given in the New Mexico Generating

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(estimated p. 3-36). Gallup also desires 8,000 acre-feet from the San Juan River, which request is not included in the NMGS hydrology technical report, the only existing attempt at analysis of cumulative water impacts.

There is not even an explanation in this document of why water was thought unworthy of analysis. This situation is intolerable.

Impacts on Native Americans

The Cumulative Overview devotes two paragraphs to cumulative impacts on Navajos (p. 3-38). The discussion of cultural resources p. 3-10 to 3-13 refers primarily to sites and artifacts, and does not adequately address impacts on people.

The most important cumulative impact of the proposed actions as well as other energy development in the area will be to utterly and irreversibly transform the area from a grazing area occupied by traditional land-based Navajos, to an area dominated by the main culture and the monetary economy, criss-crossed by rights-of-ways of all kinds for energy development. This most important issue could have been discussed concretely based on chapter resolutions, speeches at hearings, sociological studies, histories, and interviews (see our comments on the Coal and New Mexico Generating Station Impact Statements). A truly interdisciplinary approach would be necessary to give any concrete idea of these impacts; BLM could learn from the technique employed by the reports of the New Mexico Advisory Commission on Civil Rights, of relying extensively on interviews, anecdotes, and hearing records.

Although the Cumulative Overview states that "The proposed actions would

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be viewed by Navajos as causing neither all beneficial nor all adverse impacts", the record of the hearings at Crownpoint, Farmington, and Pueblo Pintado held by BLM shows nearly all Navajo speakers to be against the proposed actions.

Air Quality

The discussion of air quality (p. 3-1 and following) gives results rather than assumptions and methods, and its reference to a PRLA mine p.3-3 is not understandable. The technical report is not much more enlightening.

The air quality discussion fails to discuss or refer to any synergistic interactions between SO_x and particulates or between SO_x and NO_x. It fails to consider increased vehicular traffic as a source of pollution, and its impacts on visibility. This would seem to be especially important in the Farmington area. According to the NMGS OEIS (3-3), parts of northern San Juan County are non-attainment areas for SO₂. It is contrary to good sense to assert that the NMGS will not contribute to regional haze in the immediate vicinity of the plant, but only at long distances. Finally, the coal EIS did find that 24-hour standards for particulates would be violated in some coal mine areas from coal mine emissions alone, and this cumulative overview fails to explain whether this is consistent with the analysis here.

Timing of economic impacts

The predictions of when direct jobs would be created for coal mining and

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NMGS (p. 3-33) are totally arbitrary and in the case of NMGS outdated. While the CO says jobs from NMGS would peak in 1992, PHM has stated recently that construction would not start until 1991, and perhaps not till the late 90's (New Mexico Sun, November 21, 1982 and February 13, 1983). Demand and not leasing will determine the number and timing of coal jobs.

As stated in our comments on the Coal Leasing EIS, it is simply not possible to exhaust the resources in the PRLA's and competitive leases on the schedule envisioned, under foreseeable market conditions. Several of the competitive leases in table 2-3 are projected to exceed 40-year mine life limits given in the regulations arising from the Federal Coal Leasing Amendments Act. The timetables for mine life for the PRLA's given here do not agree with those in the PRLA Final Environmental Assessment p. 1-56.

Employment issues not discussed in this cumulative overview include the types and numbers of jobs to go to local Navajos, versus people presently living in the towns on the margins of the basin, versus people migrating into the basin.

Other

Land use planning is said to be complete (1-4) but neither surface owner consultation nor unsuitability analysis is complete. This EIS does not make clear (p. 3-24) that the proposed action is to strip mine Ah-Shi-Sle-Pah Wilderness Study Area, thus the recreational resource there will be permanently destroyed. The reference to the processing of PRLA's must refer to the Mineral Leasing Act of 1920, not to FCLAA. (1-3)

8

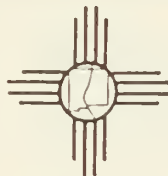
Authorship and responsibility.

The Cumulative Overview fails to state that it was prepared by Woodward-Clyde under contract to Public Service Company of New Mexico under an agreement similar to that used for the writing of the NMGS Impact Statement (see Preparation Plan for the San Juan Basin Action Plan Cumulative Overview Document, November 1981). This is certainly of interest to the public, since PHM and its subsidiaries and joint venture partner Arch Minerals have an interest in all the proposed actions--competitive and PRLA leasing, land and coal exchanges, and wilderness designation. If an EIS is to be prepared on the San Juan Basin Action Plan, as we propose, and as BLM at one time proposed, it would be improper for a third party to fund it as if it were an applicant's proposed action.

P. 4-3 fails to list Woodward-Clyde personnel as actual preparers of the document, although the November 1981 agreement indicates that Woodward-Clyde would prepare chapters 2 and 3.

The CEQ regulations provide for "cooperating agency" and "joint lead agency" arrangements as ways of involving Federal and State agencies with relevant expertise in the writing of an EIS (1501.6 (b), 1506.2 (c), and other sections). The existence of a San Juan Basin Action Plan discussion group (p. 1-3) does not suffice for input from affected federal agencies. A PHM/Sunbelt representative attended at least one meeting of this group, which seems to be a gross impropriety considering the public was not invited to these meetings.

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April 8, 1983

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Dear Mr. Luscher:

Enclosed are joint comments by the Committee on Coal, the Rio Grande Chapter of the Sierra Club, Taos Environmental Association, and the New Mexico Audubon Council on the Draft San Juan River Regional Coal Environmental Impact Statement. We appreciate this opportunity to comment, as well as your bi-day extension of the comment period.

We urge that this draft San Juan Coal EIS be withdrawn as being "so inadequate as to preclude meaningful analysis" (43 CFR 1502.9(a)). It is another inadequate part of the fatally flawed land-use and coal activity planning process in the San Juan Basin; it does not remedy serious deficiencies in the land-use plan (the Chaco-San Juan Management Framework Plan Update for Coal), in the environmental assessment on the Preference Right Lease Applications (PRLA's), in the site-specific analyses of the competitive leases, or in the setting of leasing targets.

The draft San Juan Coal EIS provides such inadequate information on the PRLA's that it is useless to the decisionmaker or the public. It does not contain site-specific and up-to-date lease stipulations, nor does it address alternative lease stipulations and their economic feasibility, or the alternative of exchanging the PRLA's. It does not contain a consistent analysis of how much coal will be produced from the PRLA's under proposed lease stipulations. It does not contain an analysis of the true "no-action" alternative: that is, of economic and environmental conditions in the absence of PRLA leasing.

The draft San Juan Coal EIS contains little information on what areas will be found unsuitable for surface mining on the competitive leases, nor does it contain the results of surface owner consultation; thus it does not remedy the most glaring deficiencies of the land-use plan. Neither this DEIS nor any other planning document contains a determination of whether reclamation is technologically and economically feasible in the PRLA and competitive lease areas.

A determination of the production potential and economic impact of coal leasing is essential for legally adequate analysis, yet much of the analysis necessary to support such a determination is absent, and that which is presented is contradictory. As neither preference right nor competitive leasing is likely to lead to any increase in production, the analysis of jobs provided and revenue to governments resulting from leasing is unsupported. The impacts of foregone revenue to state, Federal, and Tribal governments from leasing coal into a soft market are not mentioned. Committee on Coal, the New Mexico Audubon Council, Taos Environmental Association, and the Sierra Club endorse by reference here Dave Marcus's detailed comments on this draft EIS, submitted by the Environmental Defense Fund. These comments deal with the issues of coal supply and demand.

The EIS is deficient in data relating to impacts on Native Americans, including numbers of graves and sacred sites, wells impacted by mining, and plans for relocation and compensation of relocated people. There is no significant discussion of cumulative impacts on Native Americans here or in the Cumulative Overview. The impacts of cumulative water withdrawals for the proposed developments on existing water users in the San Juan Basin are not addressed.

We recommend that BLM rethink and redesign the leasing program to comply with the regulations applying to coal leasing and land-use planning (34 CFR 4300 and 1600). A revised land-use plan and comprehensive regional environmental impact statement on the San Juan Basin Action Plan should be written, addressing unsuitability under the Surface Mining Control and Reclamation Act, the desires of surface owners and other area residents, alternative development plans and philosophies for the area, water availability, and cumulative impacts of all development planned and reasonably foreseeable. Environmental Impact Statements should be written on each related group of PRLA's, addressing alternative lease stipulation packages and cost of mitigation measures for reclamation, relocation and resettlement of affected residents, preservation or mitigation of impacts on archeological and paleontological sites, wilderness preservation, preservation of recreational values in the Bisti/De-Na-Zin ACEC, and replacement of wells and grazing rights. Commercial quantities in the applications should only be evaluated in the light of such an analysis, and only for those PRLA's that BLM finds to have been properly accepted on unclaimed, undeveloped lands. BLM should address the possibility of exchanging PRLA's that show commercial quantities, after appropriate stipulations have been applied, for tracts of coal of equal value with less environmental impact and minimal impact on Native Americans. If BLM can show after this process that regional demand for coal is likely to exceed potential production in the 1995 timeframe--which seems highly improbable--it should prepare a revised draft Coal EIS for a competitive lease sale.

Thank you for your consideration of these comments.

Sincerely,

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COMMENTS DRAFT SAN JUAN RIVER REGIONAL COAL ENVIRONMENTAL IMPACT STATEMENT

SUBMITTED BY THE COMMITTEE ON COAL
THE RIO GRANDE CHAPTER OF THE SIERRA CLUB
THE NEW MEXICO AUDUBON COUNCIL
AND TAOS ENVIRONMENTAL ASSOCIATION

APRIL 8, 1983

Compiled by Allison Monroe of Southwest Research and Information Center, with assistance from Dave Marcus, Mimi Lopez, and many others

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Introduction and Chronology

The San Juan Basin of northwest New Mexico and extreme southwest Colorado approximates the federal San Juan River Coal Region. The New Mexico portion contains some 5.5 billion tons of strippable coal reserves and over 180 billion tons of coal total. Present production from nine New Mexico mines in the basin is about 18 million tons per year. Existing federal coal leases in New Mexico total 447 million tons (OTA, 1981), in addition to substantial Navajo tribal coal and state coal under lease, and private coal. The basin contains two existing coal-fired power plants, the 1560-MW San Juan plant and the 2172-MW Four Corners power plant, as well as the 233-MW Escalante plant nearing completion. (EHD, 1982)

Before the BLM's informal coal leasing moratorium of 1971, several individuals and companies filed "preference right" coal lease applications (PRLA's) for about 2.2 billion tons of coal, most of which is strippable.

In late 1980 BLM began scoping and public participation efforts for a "San Juan Basin Action Plan" consisting of several major federal actions: the issuing of the PRLA's, the Ute Mountain Land Exchange, the production of a land-use plan (the San-Juan Chaco MFP Update for Coal), the granting of competitive leases, the granting of rights-of-way for the New Mexico Generating Station power plant at Bisti, and the recommendation of wilderness areas in the Chaco-Bisti coal belt.

In July 1981 a single Draft Environmental Assessment was issued for the 26 PRLA's. A Final Environmental Assessment was released in September 1981 but no record of decision or finding-of-no-significant-impact was released.

Between June 22 and July 17, 1981, the public was invited to comment on

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not accompanied by an environmental impact statement or environmental assessment. Furthermore the plan was not available free to the public (the maps were only available in Farmington), and was difficult to read, decisions frequently contradicting the analysis accompanying them.

In March 1982 a target for the San Juan Basin of 1.2 to 1.5 billion tons of competitive leases was set by the Department of Interior. In March 1982 49 tracts totalling some 2.9 billion tons of coal were delineated and described in the "Tract Delineation Reports" and "Site-Specific Analyses".

In April 1982 an "Amendment" to the land use plan was adopted, to add 22,900 acres to the areas carried forward under the Update. A "combined comment and protest period" was begun April 30; SRIC and the Rio Grande Chapter of the Sierra Club submitted a protest. This protest raised several issues including the lack of surface owner consultation and the lack of significant unsuitability assessment on the added lands. The protest was denied by the State Director, who additionally stated that the Final Coal Leasing EIS would contain the results of unsuitability analysis under criterion 7 (archeological sites) and criteria 9 through 13 (wildlife). On appeal of the denial, the Director of the BLM stated that an "Errata" to the land use plan would contain the results of surface owner consultation. This erratum appeared October 1982, and showed that out of 1593 identified potential qualified surface owners, only 270 had responded to a consultation letter.

In September 1982, SRIC and the Rio Grande Chapter of the Sierra Club requested the State Director to open a protest period on the land use plan. This request was denied and BLM Director Burford upheld the State Director's position that acceptance of protests on a "Category C transition MFP" was

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the San Juan-Chaco Management Framework Plan Update for Coal (the land use plan for the area). In September 1981 the Update was adopted and a decision brochure issued which found that "some 10 billion to 13 billion tons of federal coal can be developed in BLM's Chaco and San Juan planning units while preserving areas with wilderness characteristics and high scenic quality, protecting cultural resources and enhancing archeological research; promoting scientific research of the fossil record; and maintaining opportunities for Native American lifestyles and religious practices".

The plan contained a number of decisions questioned by environmentalists. It recommended wilderness designation for Bisti and De-Na-Zin WSA's but not for Ah-Shi-Sle-Pah. The plan designated some five Areas of Critical Environmental Concern, one of which, Bisti-Denazin, was in the coal belt. The plan failed to designate Ah-Shi-Sle-Pah or Fossil Forest as ACEC's. The plan did not contain the results of surface owner consultation. It failed to designate any areas unsuitable under Criterion 5 (outstanding scenic quality). The plan was contradictory on whether it had designated any areas unsuitable under criteria 6 (scientific study areas) and 7 (sites eligible for National Register of Historic Places). In fact it did not unambiguously designate any areas unsuitable for coal mining under the unsuitability criteria. The plan failed to rule any areas inappropriate for coal development under multiple use considerations except for an area around Torreon. The plan recommended that the Ute Mountain land exchange for the 2000-megawatt New Mexico Generating Station power plant site be carried forward or that land be otherwise made available for the project, in abrupt contradiction to the associated analysis of land use conflicts.

The plan did not analyze alternative proposals for resource use and was

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discretionary.

In November and December 1982 the three Environmental Impact Statements and Cumulative Overview were released in draft form. Also in November 1982, the "Requests for Final Showing" to PRLA applicants were made available for public review. BLM plans to grant the PRLA's in July-August 1983 and hold a competitive lease sale in late December-early January 1984.

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Summary

This draft environmental impact statement does not suffice for issuance of either the PRLA's or the competitive leases in the San Juan Basin. It does not contain enough information on BLM's concrete plans to protect and mitigate impacts on Native American, cultural, paleontological, water, and wilderness concerns to know what the impacts are of BLM's proposed leasing of some 3.5 billion tons of coal, or even what the proposed action is with any specificity. Analysis that might have remedied this problem--unsuitability analysis, complete archeological surveys, surface owner consultation, and determination of reclamation potential--was not done during land-use planning and the deficiencies are not remedied here. In order to determine what mitigation and stipulations are necessary and feasible, one must read this document in parallel with others--the PRLA Environmental Assessment, the Chaco San-Juan MFP Update for Coal, the Site Specific Analyses, and the Requests for Final Showings on the PRLA's. Even then one is left in the dark because of BLM's protestations that many important decisions will be worked out in the mine plan stage or prior to the start of mining.

This vagueness is a testament to the irresponsibility of the Bureau of Land Management in dealing with coal planning conflicts and the enforcement of regulations governing them. Concrete plans to mitigate or protect any public values are deferred to later and later stages, and seem to become weaker and weaker in the process.

This document seems to be the sole environmental impact statement planned for the 26 PRLA's and up to 49 competitive lease tracts. A single environmental assessment has been written on the PRLA's, and no site-specific

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PRLA's

Based on impacts identified in the environmental assessment on the PRLA's, some of which are restated in table 1-7 of the draft Coal EIS, it would be unreasonable to make a finding of no significant impact on the issuance of the PRLA's. Therefore an environmental impact statement is necessary on this proposed action. BLM may claim that the Coal DEIS is such a statement; however, the coal DEIS cannot serve for this purpose, for it does not identify any alternatives to issuing the PRLA's in the manner planned, and subsumes the PRLA's into the "no action" alternative of the DEIS.

BLM states that this is "because of the PRLA processing requirements and the lack of secretarial discretion to issue a lease for a PRLA that meets final showing requirements" (Coal DEIS, errata, p. 1). However, the court decision in NRDC v. Berkland, which BLM would cite on the non-discretionary nature of the PRLA's, gave BLM the discretion to so condition the granting of the leases on environmental or reclamation grounds as to result in a finding that commercial quantities are not present in view of the costs of mitigating or avoiding environmental damage. Furthermore, the decision stated that the Secretary also has the option of exchanging, recommending a mineral withdrawal on, or buying out PRLA leases. Most important, the decision specifically envisioned an environmental impact statement on BLM's choice of lease terms and alternatives to that choice: "...if the Secretary decided to set lease terms, he should have before him a comprehensive EIS which includes a careful examination of possible performance lease standards, alternative methods for meeting those standards, and estimated costs of compliance." Thus there must be an EIS on the PRLA's proposed lease terms. An EIS on each lease

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EIS's are planned on any tract to be leased, according to the Regional Office of the Solicitor of the Department of Interior. The lack of site-specific data here (for instance, tract maps showing areas unsuitable for mining) is alarming under these conditions.

The BLM is unwilling to directly assess the PRLA's in this environmental statement, calling them part of the "no action" alternative. Thus the economic and environmental impacts of development in the basin in the absence of any federal leasing are hidden from the decisionmaker.

The discussion of Native American concerns here is totally vague and based on inadequate information on feasibility and impacts of relocation, numbers of graves and sacred sites, wells needing replacement, job skill levels of residents, and cumulative impacts on mental and physical health.

The social and economic impacts of coal leasing here are based on the unsupportable and unsupported assumption that coal produced is a function of coal leased. The DEIS refuses to discuss long-standing arguments by Committee on Coal and the Sierra Club, among others, that leasing in this area is unnecessary for coal production growth. Economic impacts to the State from leasing coal below fair market value and from mitigation of boom-and-bust development are not addressed. The impact on Tribal coal development plans from saturation of markets with competing federal coal is not mentioned.

"Cumulative" impacts of the proposed BLM actions in the region are referenced to the Cumulative Overview, which however does not discuss cumulative impacts on water, does not seriously discuss impacts on Native Americans, and which does not discuss the full range of foreseeable development nor alternatives.

This environmental statement also contains deficiencies in analysis of water and air impacts.

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or block of related leases would allow for development of alternative stipulation packages relevant to each area and the public values involved.

A comprehensive EIS on the PRLA's would have to have a "no action" alternative, as the Council on Environmental Quality regulations implementing NEPA require (40 CFR §1502.14(d)). Alternatives outside the jurisdiction of the agency must be discussed (40 CFR §1502.14(e)). CEQ has stated that "the regulations require the analysis of the no action alternative even if the agency is under a court order or legislative command to act" (46 Federal Register 18027).

Besides being inappropriate in view of NRDC v. Berkland and the CEQ regulations, the treatment of the supposed "no action" alternative is confusing to the reader. To obtain the alleged total impact of the proposed action, he must add different columns in table 1-8 and flip back and forth between various parts of chapter 3.

One looks in vain for any explanation here of various controversies affecting the outcome of the PRLA's. First, there is no analysis of the validity of the original prospecting permits either here or in the PRLA EA. 43 CFR §3430.5-1(b)(1) states that BLM will reject portions of PRLA's "which were not available for prospecting when the underlying prospecting permit was issued because the lands were claimed, developed, or withdrawn from coal leasing". Some of the original exploration permits were protested by USGS personnel on the grounds that the coal resource was already well known, and that the coal should have been leased competitively instead of awarded to the person doing exploratory drilling. Coal has been known to exist in the Chaco area since at least 1885. Curiously, the Final Environmental Impact Statement on the Federal Coal Management Program notes that 1.1 billion tons out of 1.5

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billion tons of recoverable San Juan Basin PRLA reserves are subject to "legal questions", i.e. "reserves under applications which have not met Department procedural or legal requirements--initial showings not made, or filed past deadline, or the PRLA was filed for land already subject to a mining claim" (RLM, 1979, p. 2-42).

Second, some experts in Indian law state that the claims of the allottees, off-reservation Indians living on lands given to them as a result of Federal actions in the early 1900's, outweigh any subsequent rights of PRLA holders (Final EA for PRLA's, p. 25). A discussion of the history of land disputes and historic land use in this region would go far to illuminate the social as well as legal environment.

How does BLM propose to process the PRLA's?

Certain important ways in which BLM has exercised its discretion to determine the nature of the PRLA holders' final showing are poorly documented in this EIS. These are all Federal actions having an impact on the environment which could have been avoided by different decisions.

Obviously, the positions BLM has taken on the issues below have a tremendous impact on how much coal mining is permitted in the PRLA area. A "final showing" has been submitted to BLM in February 1983 for every one of the 26 PRLA's: each holder finds he has commercial quantities present. If BLM had made different decisions this would almost certainly not have been the case.

But, in many cases the decisions themselves are not explained, described, or mentioned in this DEIS. In many cases reasonable alternatives were not

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that large areas in the vicinity of the PRLA's were unsuitable under Criterion 6 because they were under permit for paleontological studies. However, BLM seems to have changed its opinion on this criterion. The proposed lease form available at the Albuquerque BLM office (not in this DEIS) contains some general language stating that "Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall contact the BLM to determine whether the authorized officer will require the lessee to conduct a paleontological appraisal...using the published literature and where appropriate field appraisals". Yet BLM has already done field studies of thirteen of the PRLA's and identified 77 sites where mitigation is strongly recommended and 3 sites where mitigation or protection is necessary (PRLA DEA p. 2-53). Despite the existence of this data, no specific stipulations to protect these sites appear in the DEIS or the lease forms.

The delay-or-inventory requirement in the proposed stipulations on p. A-73 does not apply to any fossil area but the Fossil Forest; the DEIS fails to inform the reader of this. The decision by BLM not to preserve the Fossil Forest was made in the land use plan, based on an inconclusive poll of participants in a paleontological conference that included several mining industry officials who were not paleontologists and excluded the New Mexico professor most interested in the area. (See exchange of letters between Dave Glowka (Sierra Club) and Frank Kottlowski (N. M. Bureau of Mines and Mineral Resources) in minutes of Sept. 1981 and Dec. 1981 San Juan Basin Regional Coal Team meetings.)

3. BLM decided to require in-situ preservation of only one of the four known sacred sites on the PRLA's. This is not stated in the EIS, but is

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mentioned or referred to. In some cases the decisions contradict information in the DEIS and the proposed action must be found in other documents. Therefore, to call this document an environmental impact statement on the PRLA's would be far from accurate.

1. BLM decided to allow Arch Minerals to include Ah-Shi-Sle-Pah Wilderness Study Area in its final showing of commercial quantities. PRLA's NM-3919, NM-3918, and NM-6804 overlap Ah-Shi-Sle-Pah. The Draft EA on the PRLA's states that the areas of overlap "would be removed from mining in compliance with the unsuitability criteria (#4) so as not to impair the area's suitability for wilderness". However, BLM made a decision as of Sept. 22, 1982 to allow Arch to make the final showing including the wilderness area. Although the EIS mentions this decision in a footnote (p. 1-14), it cannot be determined from the proposed generalized lease form on p. A-69 or from the alleged discussion of the effects of the no-action alternative on wilderness on p. 3-14, which states that noise and transmission lines would affect Ah-Shi-Sle-Pah. BLM states that "no leases will be issued until after a final decision is reached on the status of this WSA" (1-14). However, a showing of commercial quantities may give Arch Minerals a valid existing right which may impair the possibility of wilderness preservation. What will happen if Congress makes no ruling on Ah-Shi-Sle-Pah by December 1984, the regulatory deadline for the processing of the PRLA's?

2. RLM decided to require no explicit, meaningful mitigation of paleontological occurrences on the PRLA's except a ten-year reprieve for the Fossil Forest. The section on Unsuitability of the Chaco MFP Update stated

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apparent from the actual requests for final showing, which contain language different from that on p. A-74. The actual requests show that other known and undiscovered sacred areas are not to be preserved in situ; before mining any area containing sacred sites, the company is to give six months notice to the Tribe, the Chapter, and the Navajo medicine men's association. Thereafter, the company will assume that the site has been removed or otherwise mitigated, and will proceed to mine. The MFP decision brochure stated that four sacred sites in this district would be considered unsuitable for coal mining (BLM, 1981, p. 11).

4. BLM seems to have decided not to require any compensation to residents for relocation costs, loss of stock, range improvements, or buildings. P. 3-29 states that people on community grazing allotments will not be compensated for loss of grazing, and p. A-68 (same language as in the actual requests for final showing) does not seem to require the companies to purchase or provide new grazing rights, housing, or range improvements for authorized or unauthorized persons on the leases.

5. BLM decided not to require a full archeological survey and unsuitability analysis under criterion 7 before requesting the final showings. Page 178 of the Final PRLA EA shows that 31% of the PRLA area has been surveyed and that 112 sites determined to be eligible for the National Register have already been found. Criterion 7 in its present form (proposed for change in the Federal Register of 3-1-83) requires that sites eligible for inclusion in the National Register be declared unsuitable for surface mining unless consultation with archeological agencies results in a determination that

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mining would not result in significant impacts to the properties. However, not a single specific site is mentioned on p. 1-14 or on p. A-70 as unsuitable under criterion #7. Thus it appears that companies have no idea how much mitigation or preservation of these sites will cost, and the public has no idea of what archeological sites will or can be left in place in the PRLA areas.

6. BLM decided to arrange for "lawful" relocation of graves instead of declaring them unsuitable as cemeteries under criterion #3. (The PRLA EA was undecided on this point: FEA p.181).

7. BLM decided to allow the holders to assume that the Star Lake Railroad will exist (implied on p. 3-2 of the Coal DEIS) when its certificate of Convenience and Necessity has been sent back to the ICC for more study under a March 1 decision of a Court of Appeals, and when it never had a certificate for that part of the route past Gallo Wash (past the easternmost 5 or 6 PRLA's).

8. BLM decided not to legitimize "unauthorized" occupants of the PRLA's through land exchanges because "the PRLA's are pre-existing lease applications for federal coal"(2-46). Alternatives do exist, however, for the PRLA final EA lists no less than twelve alternative ways of resolving conflicts arising from "unauthorized" occupancy, including land exchanges, purchase of new land, and purchase of the occupant's equity. It further acknowledges that the Navajos in the San Juan-Chaco area have in most cases been where they are since before the Long Walk of 1864--which is only stated in another context in

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[Unsuitability] criteria 2, 3, 4, 6, 7, 9, 11, 12, 13, and 15 may be expected to result in the determination of unsuitability of all or portions of some PRLA's....It is to be expected that final determination of unsuitability will be completed in time for inclusion in the Final EA.

The actual situation is that only two criteria (4 and 14) have resulted in the designation of any areas as unsuitable (Coal EIS, p. 1-14). This is after the opportunity for 1 1/2 years of study. Criteria 6, 9, 12, 13, and 15 have been found to have no effect (Coal DEIS, p. 1-13). Criteria 2 and 3 will be dealt with through "exceptions and exemptions" (p. 1-15). Thus there has been considerable change in the proposed action and its impacts since the time of the EA, and up-to-date environmental analysis would seem to be needed.

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the Coal DEIS p. 2-48. Thus the people are the "pre-existing" claim, not the lease applications.

9. BLM decided not to devise any guidance to companies at this time as to how they will protect scenic and other values in the Bisti De-na-Zin "Area of Critical Environmental Concern" while stripmining it (A-73/74).

10. BLM decided that limiting underground coal extraction to 35% in De-na-Zin would suffice to prevent subsidence. This condition could not be found in the Coal EIS but appears in the EIS on the Proposed Bisti, De-na-Zin, An-Shi-Sle-Pah Wilderness areas (p.2-2).

11. BLM decided not to specifically identify offsite wells that BLM expects will need replacement water supplies. Some of the site-specific analyses of the competitive leases make generalized reference to possible effects on offsite wells, but the wells themselves are not identified in the EA or the EIS, although a potential list could have been compiled from such documents as Kelly and Link (1980).

12. BLM apparently decided not to require any specific means or standard for reclamation.

It should be emphasized that there have been significant changes in the implied nature of these decisions and their environmental impact since the time of the PRLA EA, as mentioned above. For example, the Draft PRLA EA states:

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Competitive leases

Many of the above issues are also relevant to the competitive leases except that it is in many cases less clear what BLM's proposed action and mitigation are. Very little hard information is presented in the EIS on what lease stipulations will be required and what areas will be declared unsuitable; we are more unsure of what the impacts will be. The following is a hasty catalog of some salient defects, which demonstrate failure to comply with the 43 CFR 3400 group of coal leasing regulations.

Unsuitability analysis on the competitive leases.

As with the PRLA's, determinations of what areas are unsuitable for coal mining are vague and conflict with existing documents such as the Update. There is not even a list of unsuitability criteria included in the DEIS. Unsuitability analysis, one of the most important safeguards in the coal leasing program, is made totally incomprehensible by this DEIS, and what can be discerned from the document is alarming and shows the tendency to delay, dilute, and disregard unsuitability decisions.

P. 1-14 shows only 2 criteria resulting in unsuitable areas on the competitive leases--11 and 14, concerning eagle and ferruginous hawk nesting areas.

Regarding criteria 2 and 3, p. 1-15 states that "The exceptions and exemptions of these criteria have been applied to the PRLAs and competitive lease tracts. Special stipulations will be included in each lease permit to

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protect valid existing rights." What on earth could this mean? To apply the exceptions and exemptions seems to mean that BLM will not apply the criteria themselves. Will roads, occupied dwellings, cemeteries, and other facilities be found unsuitable or not? Hopefully this is an editing problem. There are plenty of occupied dwellings on the competitive leases even if they do not all belong to surface owners.

The MFP update brochure stated that 3710 acres were found to be unsuitable under criteria 11, 12, 13, and 14. Criteria 12 and 13, pertaining to eagle concentration areas and falcon's nests, are apparently no longer thought to be applicable (1-13) after consultation with Fish and Wildlife Service and the State of New Mexico. No letters containing the results of consultation on these areas appear in the appropriate place in Appendix O. The reference to regional coal team meetings as a mode of consultation on eagle habitat (0-2) is disturbing. Consultation with State and Federal agencies on unsuitability is supposed to be in writing (43 CFR 3461.3-2, 1982).

BLM determines that criteria 5 (outstanding scenic areas), 6 (scientific study areas) and 8 (national natural landmarks) are inapplicable "after consultation with the Fish and Wildlife Service (1-13) and the State of New Mexico" (1-13). Are these the appropriate agencies to consult? Has the National Park Service been consulted about National Natural Landmarks? Would the Fossil Forest qualify?

Unsuitability analysis under criterion 7 (archeological sites) seems to be in a state of disarray. The Azabache Stage station on Chico wash south tract (p. A-37) was actually found to be unsuitable under criterion 7 in the

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MFP Update brochure (p. 11); however, this OEIS states that it will be destroyed by mining operations. No single site is designated as unsuitable under criterion 7 in this OEIS.

Only a few percent of the area of the competitive tracts has been surveyed for archeological resources. All but 7 of the 39 tracts shown on p. 2-27 are 10% or less surveyed, and of these 7 it is unclear whether the percent surveyed refers to federal surface only or to total surface. In the case of the Catalpa Canyon tract (100% surveyed, no sites found, no sites predicted, no federal surface) BLM may have decided not to survey private surface.

Many archeologists speaking at the January hearings were concerned that the EIS did not state that a 100% survey would be required. Apparently the new Programmatic Memorandum of Understanding between BLM, USM, and the Advisory Council on Historic Preservation will no longer require 100% surveys of tracts to be strip mined, but only sampling. Nancy Wood of the state Historic Preservation Office testified that as many as 2,000 undiscovered archeological sites may exist on the competitive leases. The Historic Preservation Office has serious doubts about OSM's ability to protect cultural resources after the lands are leased and notes that OSM only has two archeologists to monitor all coal areas west of the Mississippi river.

BLM's coal leasing regulations (43 CFR 3461.3-1, 43 CFR 3420.1-4(c), 1982) require that unsuitability criteria be applied during the land use plan or land use analysis stage, or in an environmental assessment on a lease application. BLM has not included the results of this analysis in the land use plan, the PRLA EA, or this EIS, and what results the three documents contain contradict each other. If unsuitability analysis is to be more than

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"paper tiger", its results should be described in a revised draft EIS in a fashion that the public can understand and comment on. Unsuitability analysis is especially important since BLM failed to make significant use of its discretion under multiple-use considerations in land-use planning (43 CFR 3420.1-4 (f), 1982).

It should be noted that the OEIS makes no reference to any ongoing paleontological or archeological surveys in process which are to be incorporated in the final EIS. We do not believe that there are any based on personal communication with the BLM.

Surface Owner Consultation on the Competitive Leases

Pages 1-13, A-47, p. 4-4 and 4-5, and Appendix H deal with Surface Owner Consultation. Although reference is made to the SMCRA section on surface owner consent being required before mining of post-SMCRA leases (4-4), no reference is made to the SMCRA section on surface owner consultation:

"In order to minimize disturbance to surface owners from surface coal mining of Federal coal deposits and to assist in the preparation of comprehensive land-use plans required by section 2(a) of the Mineral Lands Leasing Act of 1920, as amended, the Secretary shall consult with any surface owner whose land is proposed to be included in a leasing tract and shall ask the surface owner to state his preference for or against the offering of the deposit under his land for lease. The Secretary shall, in his discretion but to the maximum extent practicable, refrain from leasing coal deposits for development other than underground

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mining techniques in those areas where a significant number of surface owners have stated a preference against the offering of the deposits for lease." (30 USC 1304d)

(Although 30 USC 1304f states "This section shall not apply to Indian Lands", BLM is apparently not arguing that it is leasing Indian Lands.)

Furthermore, the regulations require consultation as part of the land-use planning process. 43 CFR 3420.1-4 (1) and (2) (1982) state that "While preparing a comprehensive land use plan or land use analysis, the Bureau of Land Management shall consult with all [emphasis added] surface owners who meet the criteria ..., and whose lands overlie coal deposits, to determine preference for or against mining by other than underground mining techniques. ... Where a significant number of surface owners in an area have expressed a preference against mining those deposits by other than underground mining techniques, that area shall be considered acceptable for further consideration for leasing only for development by underground mining techniques. In addition the area may be considered acceptable for further consideration for leasing for development by other than underground mining techniques if there are no acceptable alternative areas available to meet the regional leasing target". Thus it seems clear that the preferences of surface owners are a very important consideration in land-use planning for coal leasing, and that BLM has a duty to consult with all of them and to not lease lands where a significant number of owners are against mining unless necessary to meet the leasing target. (And, as Committee on Coal and others have argued (Marcus and Monroe, 1982, attached), the San Juan Basin competitive leasing target is based on faulty and/or fraudulent analysis and ought to be zero).

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The land use plan for the San Juan Basin (Chaco-San Juan MFP update for coal) does not contain anything identifiable as the results of consultation. The summary brochure constituting Chapter 2 of the Update says (p. 7):

The process of surface owner consultation and consent has also been deferred in nearly all instances. Qualified surface owners have the right to consent or withhold consent up until just prior to the actual lease sale. Consultations are proceeding.

No areas were deleted due to surface owner opposition with the possible exception of Torreon. Torreon was allegedly deleted "in light of the relatively heavy population density in this area, as compared to the scattered population density over the rest of the strippable area, and the relatively low value of the coal in the Torreon area..." (Update, Minerals, p. 26).

The first mention to the public of the results of the consultation process was made at a Regional Coal Team meeting in December 1981--three months after the Update final decisions were announced, and almost six months after the recommendations were released for public comment. A representative of the Farmington BLM office stated there that consultation had been going on for 8 or 12 months, that 1433 certified letters had been sent out to allottee heirs, and that 240 responses had been received. These are the same statistics given on page 4-5 of the draft coal EIS.

The Site Specific Analyses for the competitive tracts, published in February 1982, each contain the statement that "Results of surface owner consultation has (sic) been poor in all coal development areas and further consultation will not be actively pursued, except in areas where consultation

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was not initiated (Gallup and Crowpoint) during land use planning." Here the BLM admits that consultation was not initiated during land use planning in some areas; one suspects that it was just barely initiated in the other areas involved. Some of the Site Specific Analyses contain statements that "no contact has been made with people in these areas", thus consultation was not initiated for the Site Specific Analyses either.

Even yet, the BLM has not obtained the opinions of a significant fraction of surface owners. The "Coal Amendment to the Chaco Management Framework Plan Errata/Addenda", dated October 12, 1982, states that "The Farmington Resource Area, in conjunction with the Eastern Navajo Agency, is currently in the process of informing potential qualified surface owners on the consent and refusal to consent procedures as outlined in "43 CFR§3400" (sic)." Out of 1592 owners of allotment shares, only 270 had sent in any kind of response.

43 CFR§160.3(f) states that "Public participation activities and means of notification shall be appropriate to the areas and people involved..." the sending of letters to owners and residents whose identities and addresses may be uncertain and who for the most part probably do not read English does not seem to be an appropriate method of consultation. The low level of response to the letter is probably an indication of this.

Furthermore, there is considerable evidence that surface owners are strongly opposed to surface coal mining. Seven Navajo chapters (local political units) have passed unanimous or near-unanimous resolutions against coal strip mining, as has the Chaco Legitimacy and Resources Committee, a group of Chaco area residents. Four of these resolutions had been received by July 81. The seven chapters (Nageezi, Lake Valley, Little Water, Torreon, Pueblo Pintado, Huerfano, Ojo Encino) cover most of the strippable coal in the

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Chaco-San Juan regions. These chapters did not only "express opposition" to coal development, but opposed strip mining in specific terms after considering specific harms and benefits. Copies of these resolutions should have been attached to the coal DEIS, at least as a way of lending specificity to the DEIS's vague statements that "lifestyles" will be "impacted".

If BLM had complied with the intent of the laws and regs to "minimize disturbance to surface owners", it would have offered leases in Navajo country only after extensive and meaningful consultation in which the residents could have become informed of what benefits if any the development offered them. As it is the residents are quite disturbed, as the transcripts of the DEIS hearings at Crowpoint and Farmington in January 83 clearly show. Even beyond specific provisions of the coal laws and regs, planning for the public lands should be done deliberately enough to consult with the people most affected, as provided for in the regs implementing NEPA and FLPMA.

It should further be noted that the question of surface ownership is extremely complicated in the San Juan-Chaco area. Many Navajo residents were not adequately informed of the allotment procedure in the 20's and 30's and the lands which should have belonged to them reverted to the public domain. It is unclear whether the Federal government had the legal right to reserve the oil when it granted the surface to the allottees. Furthermore, the DEIS notes that the Navajo Tribe considers itself the qualified surface owner on tribal and PLO 2198 lands (p. 4-4, although the letter involved is not included in the DEIS.) The DEIS does not discuss the late 1982 suit by the Navajo Tribe to regain title to the great bulk of the planning area, nor the land-use controversies that led to the filing of the suit.

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Various topics inadequately analyzed in this EIS

Native American Concerns

The regulations implementing the National Environmental Policy Act require the provision of high quality information to decisionmakers not only on the physical environment, but on the human environment.

"Federal agencies shall to the fullest extent possible:...

(d) encourage and facilitate public involvement in decisions which affect the quality of the human environment.

(e) Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.(40CFR§1500.2)

BLM identifies "impacts to American Indian lifestyle" and "relocation of occupants" as being among the most important "major issues" of the proposed plans for coal and related energy developments in the San Juan Basin (DEIS p. 1-19 and 1-21). Clearly this is so: the impacts of all the proposed actions will be felt most stringently by the Navajo families living within and adjacent to the areas proposed for mining and power plant development. Thus, one would expect an environmental impact statement on these developments to concentrate on these issues: "Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR§1500.1(b)). However, the worst failing of the Coal DEIS is its understatement and underreporting of these impacts on the human environment.

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There is a serious question of whether BLM has located all the occupants of the PRLA lease tracts, let alone consulted with them. Appendix F contains a table of Navajo occupancy on the lease tracts, but lists only 7 of the tracts. Whether there are occupants on the remaining 19 is not stated, but at least one writer reports personal knowledge that people do live on these tracts (Kelley 1983), and Indian allotted and withdrawn lands are shown on the EIS map "Visual 0" overlapping the PKLA's. Circumstantial evidence exists that occupants of proposed development areas have been undercounted in the past. Conflicting information exists on how many people occupy the Payson ranch area, and PNM recently "discovered" a Navajo occupant on the proposed NMGS site (memo from Michael Slota (PNM) to C. W. Luscher, September 15, 1982) after many years of siting studies. When the Joint Use Area relocation was first proposed in Congress, it was estimated that 3500 people would have to relocate; an actual census enumeration showed that 10,000 people were to be relocated (Lopez, 1983). BLM's enumeration of occupants on competitive leases was made by aerial survey (p. 2-46) rather than by field investigation.

For these reasons we must question BLM's basis for implying it has identified all the occupants of the areas to be leased. BLM has no excuse for proceeding with these actions without a complete and reliable enumeration of affected persons.

Economic or other impacts on families using the leases but residing outside their boundaries are not discussed. Families who live outside the boundaries of the lease tracts, NMGS site, rights-of-ways, and wilderness study areas, but who use the areas for grazing or who have improvements (dams, corrals, sheds, windmills) in the affected areas would also be impacted, yet

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the EIS's do not attempt to estimate a number of people affected or economic impact involved. The probability that residents will lose access to grazing areas or water sources because of the building of fences or roads is not discussed.

Relocation is a traumatic experience. This has been documented by such authorities as Scudder (1982) and Topper (1979). The most compelling testimony to the trauma of relocation comes from the voices of the Navajo people themselves--both actual relocatees (victims of P. L. 93-531, the creation of Grazing District 6, and the Navajo Indian Irrigation Project) and potential relocatees (from the Joint Use Area and from the San Juan Basin). If BLM had consulted in a meaningful way with residents of the affected areas, it could have drawn on this information to present useful information in the Coal DEIS and Cumulative Overview, instead of the sterile and abstract paragraphs printed there. Perhaps BLM could have quoted testimony and interviews at length--NEPA does not require clinical language and social-scientific jargon, but in fact mandates a "systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts.." (NEPA, Sec. 102 (2) (A)).

These documents fail to address such key questions pertaining to relocation as:

- (1) Where, specifically, will people be relocated?
- (2) When are they envisioned to return?
- (3) How will relocatees maintain their livestock, when there are no vacant grazing areas in the Chapters affected?
- (4) How are lost or impaired water sources to be replaced?

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(5) How will people be compensated for losses that cannot be replaced otherwise? Who will determine the dollar values involved? Who will resolve any disputes over the amounts involved? Who will bear the costs of all this?

(6) What response will be made to people who state that they refuse to relocate? What rights of appeal do they have? To whom?

(7) If families are to be relocated as a unit and not split up (Coal UEIS p.3-53), how big will that unit be? What will be the impacts on extended family members left behind, and on people in areas to which relocatees move?

(8) What role will Chapter governments have in approving or disapproving relocation activities within their boundaries?

(9) What federal and Tribal laws and regulations govern relocation?

* The number of gravesites on the affected coal leases is almost certainly many more than the 34 to 44 estimated on page 1-32, as Navajos have lived in the area for hundreds of years. Many Navajos disagree with BLM's position that ceremonies can mitigate the impact of violating strong taboos against the disturbance of graves, and proper consultation with medicine men should have confirmed this. The cost of such ceremonies, or who would fund them, is not discussed in the EIS. BLM's refusal to consider gravesites unsuitable under unsuitability criterion #3, when Judeo-Christian cemeteries would certainly be considered unsuitable, is an indication of cultural chauvinism. Has BLM determined that the social impacts of moving one or several Navajo gravesites are less than those of moving a number of other types of gravesites? Why does BLM make a distinction?

This DEIS gives little information on range improvements or grazing leases. BLM claims to have little knowledge of range improvements or herds on

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BIA leases (2-25). Then again, BIA is said to have provided information on these leases (4-4). Wells off the tracts that would be impacted by mining are not counted or listed. No discussion is provided of issues raised by residents such as increased alcoholism, crime, jurisdictional and law enforcement problems, and unenforceability of agreements between companies and residents.

There is no excuse for BLM carrying out major actions without this information. Local residents need specific information on what is proposed for their area and what the impacts and benefits are to them.

A better EIS would have more information on what local people think about the proposed development and why. Many Navajos have said in hearings that they need more particular information on what economic benefits they as residents can be assured of. Others have said they wanted to be left alone. The ratio of negative or cautionary to positive views among several dozen Navajo speakers at the January hearings was at least 9 to 1.

Under "Irreversible and Irretrievable Commitments of Resources" (3-59), "Relationship between short-term use and long-term productivity" (3-56), and "Cumulative Impacts" in the Coal DEIS, one looks in vain for any acknowledgement in any specific terms of the permanent and irreversible loss to the viability of a traditional lifestyle in the area resulting from development. Relocation from mined areas is alleged to be temporary: "Navajos living on PRLA's may be temporarily relocated" (3-25), but if people are not allowed to return for the life of the mine, which may be 40 years in the case of the PRLA's, most individual people affected will have passed away, including people of the older generation who have the most knowledge of how to maintain a land-based livelihood. The areas to which relocatees return will

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not be the same in many important ways: the vegetation is unlikely to include medicinal, sacred, and dye plants; wells contaminated, drawn down or removed will be replaced by dependence on some other water system; sacred sites and other features that orient people mentally and religiously will be gone; flocks may have been reduced or sold off. As stated by a speaker at the Pueblo Pintado hearing March 17, 1983,

"What will we have left after all the coal has been taken, and all the water sucked out? Will they then move us back onto that land that won't produce any more? We will be living in a cloud of smoke. There is illness in that smoke; there are sores in that smoke. Even our sheep and our cattle won't be the same any more."

The total impact of these changes plus myriad other changes--some referred to in these statements and some not--will be an irreversible loss of the knowledge and heritage arising from and necessary for a traditional way of life in the San Juan Basin.

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Reclamation

SMCRA §522(b) requires an assessment of federal coal lands as to whether reclamation is technologically and economically feasible. This DEIS accomplishes nothing of the sort, and neither did the land-use plan or the EA on PRLA's.

The Coal DEIS has conflicting cites on when and whether grazing will be allowed on reclaimed lands--two to ten years (3-25), or not for the life of the mine (3-3), which may be 40 years or more (see table 2-3 in the Cumulative Overview document). Pages 2-15 to 2-18 merely describe various different soil associations that exist in the area--most of which seem to be "unsuitable" for planting media and/or have "low natural fertility". No tying of specific soils to specific tracts is made.

The DEIS finds that "successful revegetation" has occurred in the region at the San Juan, McKinley, and Navajo mines, without speaking to long-term success without irrigation under grazing pressure and without discussing any differences between the soil and water situation at these mines from that at the lease tracts, or differences among lease tracts. No "reclaimed" land at San Juan Basin mines has yet been released from bond. Statements in the DEIS that "reclamation" or "revegetation" would occur within 3 years (p. 1-15 through 1-19) are not supported by references or argument, and seem exceedingly generous as a description of experience at Fruitland formation revegetation test plots in the area.

The DEIS mentions in appendix A-3 that the tracts were ranked for reclamation potential, but expunges any mention of the ranking itself from Appendices A-1 and A-3. In fact the March 1982 Site Specific Analyses themselves ranked reclamation potential in all tracts as "Low", except for the

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Crownpoint, South-of-Gallup, Gomerco and Hoshah area tracts which were ranked as "Low-to-Moderate" in reclamation potential.

The DEIS does not discuss the implications of erosion rates or geomorphologic factors in reclamation (Wells, 1982). In badland areas, with their high erosion rates, gullying and piping can be expected to physically remove topsoil and vegetation (Curry, 1982). Small berms built as part of "water harvesting" techniques are unlikely to persist without constant maintenance.

Need for coal

The DEIS does not address the need for coal development or the market for the coal although several scoping comments called for it (4-3).

The DEIS does not respond to the position on need taken by Committee on Coal, Sierra Club, and SRIC over a year ago. This position is that since federal agencies including the Minerals Management Service and the Office of Technology Assessment have calculated production potential from existing leases and PRLA's well above DOE production goals for the region, no competitive leasing can be justified. In view of the most recent information for coal market demand provided by Data Resources Incorporated to the State Energy Research and Development Institute, and in view of the capacity of mines already permitted in New Mexico, neither preference right leasing nor competitive leasing is likely to lead to any incremental increase in production.

BLM falsely alleges that the choice of leasing target or the analyses of coal produced under different levels of leasing (table 1-1) is based on or documented by the coal production goals (4-3) and the final EIS on the Federal

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Coal Management Program (1-1). The DEIS's estimate of production from existing leases plus PRLA's is in the neighborhood of the estimate in the FCHP FEIS only through coincidence. The FCHP FEIS figure of 43.8 million tons per year in 1990 (FCHP FEIS, p. 2-52) was based on a finding that the great bulk of the PRLA's were not granted because of legal and environmental problems (FCHP FEIS, p. 2-42) and could only produce 11.3 million tons per year. This EIS assumes PRLA's produce 21 million tons per year (table 1-1), and envisions leasing all the PRLA coal involved despite any legal or environmental problems.

Note that the expected 1990 production from the PRLA's has been arbitrarily reduced from 36 million tons per year (PRLA FEA, p. 145 and 156, based on the PRLA initial showings for 1.4 billion tons recoverable reserves) to 21 (Table 1-1, Coal EIS). This may have been done to conform with the unsupportable "calculations" used by some members of the Regional Coal Team to set the 1.2 to 1.5 billion ton leasing target (see transcript of Goals and Targets hearing, Albuquerque, February 1982).

The DOE coal production goals themselves say nothing about the need for or impacts of different leasing levels. Several different independent estimates of 1990 production potential without competitive leasing--including estimates by New Mexico offices of the Bureau of Land Management and the Minerals Management Service--exceed the DOE coal production goals (Marcus/Monroe, attached).

A recent study of coal market conditions done for the New Mexico Energy Research and Development Institute by Data Resources, Incorporated (DRI) found that demand for New Mexico coal in 1990 would be 29.5 million tons or less--about half the demand assumed in the DOE production goals of 54 to 59 million

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tons. If this were true, all the scenarios in table I-1 would be wrong--each leasing option would result in 29.5 million tons being produced in 1990, instead of the higher figures shown there. The study also found that existing mines plus mines already holding plans could attain a production level of 28.8 million tons in 1990 without new leases or PRLA's (NHERDI, module II, p. II-1 to II-5). Thus neither PRLA issuance nor competitive leasing will increase coal production significantly compared to a true "no action" alternative.

Committee on Coal and the Sierra Club endorse by reference the detailed comments by Dave Marcus for Environmental Defense Fund on this DEIS, showing the myriad discrepancies in the coal supply and demand figures throughout this DEIS.

It is quite impossible for the market to absorb production from the competitive leases and PRLA's proposed in this DEIS while complying with the diligent development regulations in 30 CFR § 211. BLM admits that several bypass tracts will not meet the 10-year deadline for start of production; EDF's comments show that a large fraction of the competitive tracts will also fail. Mine lifetimes given in Appendix A for several of the tracts exceed the 40 year limit set by the regulations, ranging up to 67 years.

Socioeconomics.

All estimates in the Draft Environmental Impact Statement of how many jobs will be created in coal mining and secondary employment in certain years (3-20), or how much state income will be derived from severance tax (3-22) are irrelevant, because of the arbitrary and unsupportable nature of the estimated production levels from each alternative. If these figures are functions of tons of coal produced, as seems likely, the different leasing levels will not

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and off-reservation coal development.

There is no discussion here or in the Cumulative Overview of impacts on mental and physical health associated with energy development; studies of coal development in the northern Rocky Mountains show that assaults, child and spouse abuse, drug and alcohol problems increase much faster than population in boomtown areas (Williams, 1983). In fact the literature on boomtowns, their needs, characteristics, and schemes for mitigation of their impacts, is not referred to here. Increase in interracial conflicts resulting from energy development is not addressed in this DEIS.

Air Quality.

The air quality discussion is not understandable to the average reader. The discrepancy between the assumed Total Suspended Particulates baseline of 30 micrograms per meter³ (2-2) and the calculated baseline at Chaco of 7 micrograms per meter³ (3-5) is not fully explained in the text or the errata sheet.

The DEIS states that the Prevention of Significant Deterioration Class II 24-hour limit could be exceeded near the mine boundaries. Where is this area? What are the regulatory, visibility, or health implications of such a situation?

The DEIS contains no discussion of the regulatory problems or feasibility of permitting mines and power plants in an area with an absolute PSD increment limit of 37 ug/m³ for TSP. The Cumulative Overview also admits violations of TSP standards in the power plant area, but does not discuss how this violation situation could legally come about or how it could be mitigated.

The EIS should explicitly state that the target alternative results in

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affect them significantly because they will not affect coal production significantly.

The fraction of "local residents" hired is an arbitrary number. The PRLA EA stated that 25% of the new work force would be "local people" (DEA p. 3-28). The Coal DEIS states that 50% would be local hires (3-18). BLM seems to be guessing. It is important to state whether local people means rural Indians or people from such towns as Farmington and Gallup. BLM should produce data on the skill levels and education of both these groups, and to state whether there is any commitment required of the companies to train and hire Navajos. Otherwise BLM's assertion that "Employment figures are also listed as an indication of the number of potential jobs that could be filled by local Navajos" (p. 3-2b) is merely a feeble speculation.

No analysis could be found of fiscal impacts to the state beyond tax revenues. Losses to the state in leasing revenues resulting from coal sales during a soft market should be addressed based on the comments of James Cannon (attached here). State expenditures on roads, hospitals, social services, and other welfare and infrastructure needs arising from coal development are not mentioned.

The Navajo tribe has plans to develop coal at Burnham. This coal would be competing with federal coal leased in the San Juan Basin for the same markets. BLM has assumed in its analyses that increases in tribal production are unlikely (San Filippo, minutes of the Regional Coal Team meeting of September 1981). They are made even more unlikely by the flooding of the market with federal coal. Competition with tribal coal and tribal railroad development should be discussed in view of the differences in employment practices and in terms of the different distribution of royalties between on-

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the halving of visibility at Chaco (from 127 to 65 miles).

Water

Pages 2-18 to 2-24 fail to discuss the extent and "seniority" of current uses in the Coal region: Navajo ranchers, uranium mines, Crownpoint area residents, Chaco Park. These discussions are needed to identify the impacted parties, and the degree of impact of the coal proposals. This section fails to discuss the importance of the alluvial aquifers to Navajo ranchers for domestic and stock watering uses. Many of the mines contain floodplain areas and thus would be likely to impact downstream users of shallow wells and tanks.

Link and Kelley (1980), in a recent study on aquifers associated with the San Juan coal beds, include all aquifers including wells in each coal area with both water quality and quantity info. on hundreds of wells. This level of detail should be in the DEIS.

Impact on springs in the Chuska mountains and need for replacement of these supplies should be discussed on pages 3-8 to 3-10.

Why is withdrawal of 12,500 acre feet of groundwater considered an "enhancement" of the productivity of the resource? (p. 3-5B)

Visual Resources

The land-use plan determined that no areas were of "outstanding scenic quality", VRM Class I, and thus unsuitable for mining under criterion 5. This included the Bisti-De-Na-Zin ACEC and the Ah-Shi-Sie-Pah badlands. The outlines in visual B for VRM areas seem rather arbitrary, following land status boundaries rather than topographic ones in many cases (for example, in

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detouring around the Gateway state section surrounded by the Bisti WSA). The BLM has a different classification system for visual resources with ratings of A, B, and C, and the area has been rated in this system (see maps in PKIA EA and Ute Mountain Environmental Assessment). The boundaries according to the A, B, C, system do follow topographic divisions, and the badlands of the Bisti/De-Na-Zin area receive the highest rating of A, as they clearly deserve. BLM should explain the difference between the two systems, and why the Bisti/De-Na-Zin and Ah-Shi-Sle-Pah areas are not rated Class 1.

Cumulative Impacts

The Cumulative Overview document is not acceptable as a substitute for discussion of cumulative impacts of all proposed, past, and future energy developments. The New Town associated with the generating station is not discussed there, and neither are the synfuels plants envisioned in the DOE production goals (one plant in the "low goals" and two in the "high goals"). As noted in Committee on Coal comments on that document, it fails to discuss any cumulative impacts on water including groundwater, and fails to give significant discussion of cumulative impacts on Navajo lifestyle and culture.

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ONA PEOPLES LEGAL SERVICES INC.

1000 N. 1st St. Suite 100
Tucson, Arizona 85701

April 1, 1983

John C. Sedd
Attorney-at-Law

Dear Sirs:

Dear Sirs:

Thank you for the opportunity to comment on the Draft Cumulative Overview of the San Juan Basin.

As a representative of individuals and local government in the San Juan Basin, Ona-Naval Services is concerned that these documents reflect poor and overly hasty planning; inadequate analysis of human and environmental impacts; and inattention to the requirements of law. A fresh start is needed for energy planning in the San Juan Basin. We sincerely hope that you will take advantage of the extra time created by the lagging energy market to revise its data and to prepare a true regional plan.

Attached find detailed comments on the regional coal and wilderness plans and on the Cumulative Overview.

Very Truly Yours,

John C. Sedd
John C. Sedd
Attorney-at-Law

Comments on EIS's, April 8, 1983

REGIONAL COAL EIS

I. Scope

The San Juan Basin Action Plan is a coordinated proposal for the development of the Basin. It consists of closely connected, interdependent sub-actions, with similar and cumulatively significant impacts. BLM has properly integrated these sub-actions into a single planning framework -- until release of these EIS's. BLM must prepare a single, regional EIS addressing all elements of the Action Plan. The present fragmented analysis thwarts rational evaluation of impacts and alternatives. It also violates the law. 40 CFR 1508.25(a), 1502.4(a); *Sierra Club v. Aler*, 427 U.S. 350 (1976).

The regional EIS must include full analysis of the PKIA's. Granting the preference leases is a major federal action requiring not just the EA, but draft and final EIS's. 40 CFR 1502.9.

II. Timing of the EIS's

Site specific data was required before preparation of these EIS's. Leasing before such data is obtained limits the choice of alternatives for where and how to mine. Later mine plan EIS's will thus be prepared in violation of 40 CFR 1506.1(a), 1502(f).

BLM has also violated 40 CFR 1502.25 by failing to prepare the EIS concurrently with and integrated with inventories required by the National Historic Preservation Act.

BLM should have deferred the EIS until site-specific data was available, in order to maximize integration of NEPA and Surface Mining Control and Reclamation Act (SMCRA) environmental reviews. 40 CFR 1500.2(c).

III. Alternatives

The EIS does not contain the no action alternative required by 40 CFR 1502.14(d). Lack of discretion to issue preference leases does not relieve BLM of this duty. 40 CFR 1502.14(c). Without a true no-action alternative the public and decisionmakers lack baselines against which impacts can be compared. Inclusion of a true no-action alternative in the EIS will not do. A draft EIS must be prepared that includes this alternative. 40 CFR 1502.9.

The EIS excludes two important alternatives besides no-action. One is the alternative of producing coal outside the San Juan Basin. A second is production of energy from non-coal sources, including conservation and renewables. Sale of large coal reserves will reduce incentives to develop other energy sources and will, as a practical matter, exclude some alternative sources from the market, contrary to the assertion in the EIS. This is

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especially true here, where coal will be sold below fair market value, thus distorting its competitive position in the market.

IV. Reclamation

A. Potential

Reclamation potential was a factor in tract ranking, but is not included in Table A-3-2, giving rationales for ranking. Pages 2-11 to 2-18 discuss soil potentials but do not indicate which tracts contain which soils. Absent site-specific data no comparison can be made of alternatives, nor can the public comment on leasing particular tracts.

Pages 2-15 to 2-18 suggest that all area soils are unacceptable planting media. What soils are acceptable, if any?

Reclamation costs are not discussed. Cost, as much as soil and climate, determines whether reclamation can be achieved.

B. Post-Mining Land-Use

At one point the EIS states that grazing will be precluded throughout the mine life. At another it is said that mines may be grazed in the second season of revegetation. 3-25. Most reclamation experts, however, do not even consider vegetation established until the second or third season. Not one acre of reclaimed coal surface mine land in the arid west currently supports grazing.

The EIS states that original conditions may be restored in 15 years. 1-19. The National Academy of Sciences, however, in its report, Rehabilitation Potential of Western Coal Lands (Ballinger 1974), states that "restoration... in the sense of recreating the former conditions, is not possible."

Wildlife use is postulated post-mining. The only discussion of how to achieve this is a citation in Appendix A-4 to federal law requiring such use. There is no indication whether this will involve the use of stocking, hunting regulations, particular vegetation, water development, or other means.

C. Soils

Vegetation sufficient to retard erosion may be established in three years, 1-19, but this depends on highly unpredictable weather. For example, vegetation at the McKinley Mine was unable to prevent erosion in the summer of 1982. Some New Mexico mines have been unable to establish erosion-retarding vegetation even in several years in places. E.G. the York Canyon Mine.

Leasing prior to site-specific soil surveys, 2-15, will result in pressure to mine despite soil limitations. Soil surveys are required prior to leasing to meet the requirements of 30 U.S.C. 1271(b) review of federal

land for unsuitability for surface mining).

No estimates are made of sediment yields during and after mining. Table 2-6 does not quantify erosion hazard. Appendices tables B-8 and B-9 do not indicate methodology used, as required by 40 C.F.R. 1502.24. The EIS should note the inapplicability of the universal soil loss equation in the Southwest. It is inapplicable because of an inadequate data base regarding soil erodibility and the intensity and variability of wind and precipitation.

The EIS states that soil productivity will be lost and gained periodically during mining. 3-55. Will periodic gains be due to human inputs, e.g. fertilization? Natural productivity growth will take decades or centuries and will require re-establishment of soil microbes, something which no reclaimed western mine has yet done.

D. Revegetation

The EIS states that experience in similar areas indicates that revegetation can succeed. 1-54. It should name the areas so their true similarity to the lease tracts can be told. The Navajo mine, for instance, has more sand and loam surface than many of the shaley badland tracts. The McKinley mine site is better. Revegetation results at both mines are mixed, short-term, and inconclusive. The Navajo Mine has reported failed stands after two seasons even on its better soils. Research at Sunbelt's De-Na-Zin mine indicates that badlands are reclaimable to vegetation only by terracing. Terracing is prohibited by the approximate original contour provisions of SMCRA.

How does BLM plan to evaluate revegetation success, especially in areas where natural vegetation is clumped between bare areas. Sampling models may assume normal distribution of vegetation and be inapplicable to the poisson distribution on the lease tracts.

Will BLM require revegetation to the present range condition or to a good condition? How will invasion by and dominance of weedy species, e.g. russian thistle(tumbleweed) be prevented?

Will BLM require diverse vegetation after mining? Success with shrubs, including important species such as four-wing saltbrush, has been low at mines in and near the San Juan Basin. I know of no attempts to reestablish important Navajo herbs. If topsoil is discarded and a better textured subsoil used as the planting media, seed of many local plants will be lost.

BLM expects vegetation productivity to return to current levels. 1-25. What data support this? Will diversity also return?

The scientific uncertainty and lack of data regarding revegetation potential requires that BLM perform a worst case analysis. 40 C.F.R. 1502.22(b).

V. Unsuitability for Surface Mining

A. Criteria

The EIS fails to set out the criteria for designation, thus preventing public comment.

The EIS says that where unsuitability information is lacking, inventory and mitigation will be required by the lease. 3-1. That information should be obtained before leasing. 30 U.S.C. 1272(b). Regulations required the information and unsuitability analysis at the land use planning stage or in this EIS. Mitigation measures should be specified for review by the public.

B. Results

Why were only 190 acres found unsuitable in the EIS Table 1-5? Why does this table exclude some sites found unsuitable in the Management Framework Plan update? E.g., areas of ongoing paleontological study.

Navajo graves are cemeteries and their aced sites are churches. These areas are therefore unsuitable for surface mining. 30 U.S.C. 1272(e).

The Continental Divide National Scenic Trail has been designated by Congress is an existing National Trail. It too is unsuitable. Id.

VI. Need for Leasing

Extensive discussion in Congress and the Executive in the 1970's resulted in a policy of leasing to meet need. The 1975 Coal Leasing Amendments Act embodied that policy. Congress required competitive leasing with a fair return to the U.S. The CLAA was enacted in response to overleasing, speculation, and large undeveloped reserves. The San Juan coal sale will violate the policy of the Act.

Many studies show new competitive leases are not needed in the Basin to meet demand 10 to 15 years from now. E.g., the Minerals Management Service and New Mexico Energy Research and Development Institute studies. The NMERDI report indicates adequate capacity in 1990 without either competitive or preference leases, and assuming wrongly that the NNGS will be on line then. The DOE demand assessment relied on 1979 forecasts. Electrical and other demand forecasts have universally been lowered since 1979. DOE also assumed unlikely growth in the synthetic fuel and export demand sector. Regional Coal Team supply estimates wrongly excluded private coal and other sources. See 43 C.F.R. 3420.3-2(e).

Recent legal setbacks for the Star Lake Railway ensure that there will be no immediate market for many lease tracts. Continued transportation uncertainty will decrease demand.

(Much of the above information is derived from papers delivered at the New Mexico Soil Conservation Society Mined Land Reclamation Symposium held in Albuquerque, New Mexico in September, 1982.)

Leasing beyond need will not result in more excess production. Studies by BLM, MMS, the Office of Technology Assessment and in the 1979 Programmatic Leasing EIS all conclude that the new sales will minimally increase production.

Excessive lease sales will bring very low returns to the U.S. and reduce competition in the sale. The Powder River sale results prove this.

If the assumption of complete sale, development and markets is really intended as a worst-case analysis, 3-3 the probability of the worst case must be address. 42 C.F.R. 1502.22(b).

Non-producing leases produce no royalty income. The EIS has assumed prompt production and thus overestimated revenues to the U.S. and local shares thereof. The production estimates are made without reference to predictive methods or data. 1-14.

Leasing in excess of need will distort the coal market by encouraging speculation.

The EIS recognizes many tracts will not enter production soon and some not until 2025. The law requires production within ten years of leasing, 30 U.S.C. 207(a). Leasing combined into logical mining units must be completely mined within forty years. 30 U.S.C. 202a. How does BLM justify selling leases that will not meet legal requirements?

Even if need exists, BLM cannot lease to meet all need. It must balance need for coal against environmental considerations. 30 U.S.C. 201(a)(1).

Summaries of need analyses relied on by BLM must be included in the EIS for public review and use by the decisionmakers. 40 C.F.R. 1502.21.

Timing of development is determined by need, and timing in turn determines social and infrastructure impacts. Rational evaluation of impacts and alternatives is impossible without the chance to critically review need estimates. Nor can the public determine whether all reasonable alternatives have been analyzed, without a readily available, accurate forecast of needs. Cf. Vermont Yankee v. Natural Resources Defense Council.

NEPA regulations require that the EIS briefly "specify" the need to which the proposed action is addressed. 40 C.F.R. 1502.13. The word "specify" implies more than the simple assertion of need on page 1-1.

VII. Livestock

The EIS should clearly set out what compensation will be paid for destroyed grazing lands and improvements.

BLM fails to recognize its trust duty to insure compensation for Indian community grazing allotments 3-29.

BLM claims ignorance of livestock operators, classes, numbers and improvements on many allotments. 2-25. The 8IA submitted such information, apparently. 4-4. What did BLM do with it? Will BLM obtain it again from 8IA or other sources in time to use the information in lease planning?

VIII. SocioeconomicsA. Population and Revenues

The EIS does not explain why no population growth is expected in Crownpoint except under the High Alternative. Table 3-16. This is unrealistic given Crownpoint's proximity to many lease tracts.

The population of Farmington is expected to increase by 18,000. Adjustment to past growth, has not been without difficulty. Past adjustment does not mean future growth will be without impact. See 1-36.

The EIS refers to "other problems" with a sharp population rise, but does not describe them, nor discuss relevant data on boom town phenomena. 1-36. Increases in crime, suicides, and psychological problems can and should be predicted based on this data.

The projected increase in Sandoval County tax base, 3-32, would result in part from increased assessed values of existing properties, caused by high demand and low supply. This will adversely affect present property owners.

The EIS should evaluate impacts on finances of chapters (local Navajo governments).

B. Employment

Employment is a function of production, which is a function of need. Employment estimates must be reduced to reflect lower, more realistic need estimates.

The PRLA Environmental Assessment and EIS p. 3-18 disagree on the per cent of "local hires". What data and methodology differences caused this disagreement?

The EIS does not indicate what percentage of local hires will be Navajos, especially Navajos from the lease areas.

The EIS contains no discussion of Navajo hiring preference, methods to enforce same, and likely success of preference programs based on experience in energy facilities in the area.

Employment estimates fail to distinguish between direct and indirect gains. E.g. 3-18. Estimates of direct employment contained in the Appendices should be relocated to sections on employment in Chapter 3.

C. Transportation

The changed status of the Star Lake Railway requires a new tract ranking, see A-49.

The assumption of two workers per commuting vehicle is unsupported and too high. 3-4. A level of 1.4 per vehicle will exceed the highway capacity. CO Page 3-26. The assumption of use only of state highways is also unrealistic Id., especially if local Navajos are hired.

IX. Native American ConcernsA. Relocation

The EIS does not, and should, discuss prior Navajo relocations. This would reveal expectable problems and possibly solutions.

Relocation costs will affect demand for and sale price of tracts and should be estimated in the EIS.

The EIS does not indicate where, if anywhere, in the Basin unoccupied land can be found with water and forage to support relocatees see 3-53. If no such land exists, this fact must be noted and resulting crowding on occupied areas described as an unavoidable adverse impact.

The EIS should state whether extended family groups will be relocated as a group to new areas. Will extended families, where not all the nuclear families are on a lease tract, be relocated as a group?

The EIS must state methods used to count Navajo occupants.

Navajo occupancies pre-date PRLA's and the competitive tracts. BLM must respect and protect these occupancies. E.g. 25 CFR 2090; Cramer v. United States, ___ U.S. ___ (1923).

B. Religious and Grave Sites

The EIS states that unidentified sacred sites could be destroyed. 3-26. Will identified sites be preserved from mining?

What is meant by assertions that specified numbers of "known" grave and sacred sites will be disturbed or destroyed if not "identified" or "recognized" before mining? Table 1-8, page 1-32.

The EIS states graves will be disturbed if they are not removed. Id. Removal is a disturbance and this should be noted.

Ceremonies necessitated by grave disturbance are expensive. These costs and their impact on Navajo families should be set forth with mitigation proposals.

The EIS says gravesites "could" be identified, but does not state whether and how they will be. 2-48.

X. Cultural Resources

The EIS does not explain how damage to cultural and historic sites can be mitigated while still allowing mining of the sites. 1-15.

The EIS does not state whether 100% ground surveys or only sampling will be included in required cultural resource inventories. Id. How does the inventory requirement relate to the statement that uninventoried sites will be destroyed? 1-34.

The EIS does not indicate how BLM will decide which sites require in situ-protection. Will decisions be based on age or size of sites, degree of interference with mining, or other criteria?

Chacoan roads runs through lease tracts. Their destruction is thus more than "possible". 1-34.

Mitigation measures are specified for Pierre's community. 3-51. Measures to be applied to other sites should be outlined.

Data on blast effects in Chaco Canyon must be included in a draft EIS, 40 C.F.R. §51502.9 rather than just in the FEIS.

Considering the importance of the "Chacoan Phenomenon", 2-27 and 28, and the requirements of the unsuitability sections of SHCRA, leasing decisions must be based on more than the minimal inventories completed to date. See 2-27.

Water ResourcesA. Water Quantity

The EIS does not evaluate the quantity, priority, and availability of water rights in the basin. Information of water rights is essential to impact evaluation. That water rights jurisdiction lies in the State Engineer does not relieve BLM of the duty to evaluate impacts on these rights and alternative uses of them. 42 CFR 1502.14(c). Moreover, jurisdiction of the State Engineer over reserved Indian rights and rights in Indian Country may rest with the U.S. Thus, evaluation of such rights is peculiarly BLM's responsibility.

If reclamation will decrease runoff, how will it also decrease recharge? 3-8.

The only water resource mitigation discussed in the EIS is treatment for reclamation use. 3-50. The EIS must discuss, or note the lack of, mitigation measures to deal with decreased water availability.

B. Water Quality

The EIS should state whether a detailed water quality study such as the one at Colstrip will be done in the San Juan Basin, not merely whether it could be. 3-12.

The EIS assume that water quality regulations will be met and will provide for mitigation. 3-61 to 63. Experience of other mines should be referred to in order to indicate the accuracy of these assumptions.

Comparison of Tables B-6 and B-10 belies the statement at page 3-62 that mine runoff will be of similar quality to stream flows. Significant differences and their impacts should be discussed.

XII. Air Quality

The Clean Air Act will be violated without mitigation measures. 3-40; x. The only mitigation discussed is to alter mine locations and decrease mining, 3-50. If decreased mining will be enforced to comply with the Clean Air Act, production estimates should be decreased. If no such mitigation will be required, how will BLM ensure compliance with 30 U.S.C. 201(a) (3)(E), requiring leases to abide by the Clean Air Act?

The EIS should explain why it assumed a background TSP level of 30 ug/m³, despite a 7 ug/m³ level at Chaco Canyon. 3-5. The Chaco level would be more appropriate than the 30 ug/m³ level at the urbanized polluted Zuni pueblo.

Realistic 24-hour impacts could be obtained. 3-5. Will they be?

Limited knowledge regarding regional haze requires a worst case analysis. 40 C.F.R. 1502.22(b).

XIII. Other Government Plans and Policies; other laws

A large lease sale will reduce later demand for Indian owned coal. The EIS should discuss Navajo policies and plans for development of Indian coal, and the opportunities that will be lost for such development.

Plans and policies of other governments and agencies include the Navajo Tribe's E.O. 709 suit (claiming land as reservation); the Jicarilla water rights suit; plans for relocation from the Former Joint Use Area; Navajo law regarding homesite leases to accommodate increase population; and Navajo and BIA rules regarding grazing permits for relocatees.

The EIS does not discuss how BLM will reconcile its proposed action with the requirements of New Mexico air quality and water rights law, as required by 40 C.F.R. 1506.2(d).

What effects will increased population have on land-use planning in Farmington and other towns?

XIV. Surface Owner Rights

The EIS indicates consultation with surface owners only by mail. 4-4. Consultation, under SMCRA regulations, must be tailored to the people and areas involved. Given low literacy in the San Juan Basin, personal contacts should be made, e.g., at chapter meetings.

The EIS does not indicate whether significant numbers of surface owners over any lease tract object to mining. Nor does it state what effect, if any, consultation had on tract selection and alternative formulation.

Has consultation been completed? It was not done and completed during the land use planning stage, as required by 30 U.S.C. §§201, 1304. A-47.

More protection should be given Indian surface owners than the minimum protection set out in SMCRA.

XV. Miscellaneous

Will mine plans be analyzed in a full EIS? If not, site-specific data will never be given the benefit of full NEPA analysis.

Why were numerous tracts delineated if BLM contemplates consolidation into Logical Mining Units?

What specific actions, in addition to preference leasing, are included in the no-action alternative? See 1-23.

A large "bust" would also occur when reserves are depleted after 50 years.

Wilderness EIS

The EIS under estimated the recreation value of the WSA's by assuming that all acres in the Basin are equally visited.

The EIS did not consider the important alternative of designating all three areas as wilderness and providing lease exchanges from the Ah-Shi-Sleo-Pah area.

The EIS states that the proposed action is a result of decisions made in the Chaco MFP. 1-12. The EIS is thus not a guide to BLM's decision whether to recommend wilderness designation, but a rationalization of prior decisions. This violates 40 C.F.R. 1502.2(g).

Conclusion

The inadequacies in the present documents preclude meaningful analysis of the proposed actions. BLM must therefore make a fresh start on NEPA analysis of the San Juan Basin Action Plan. It must prepare a true regional EIS, analyzing all reasonable alternatives and using updated, site-specific resource supply and demand data. At the very least, revised drafts, 40 C.F.R. 1502.9(a), or Supplemental drafts, 40 C.F.R. 1502.9(c), are required before further action is taken.

A list of potential threatened and endangered species occurrences in the area should be included to guide later, more detailed surveys. See 2-24.

The EIS lacks meaningful discussion of impacts on urban quality and the built environment. 40 C.F.R. 1502.16(q). Impacts on land-use patterns, traffic flow, aesthetic quality and other urban concerns should be evaluated.

CUMULATIVE OVERVIEW

This document is not a EIS and cannot substitute for analysis of cumulative impacts in a regional EIS.

The CO does not analyze cumulative impacts. It only cumulates impact discussions in the EIS's. Synergistic effects are treated poorly if at all.

The CO does not address water impacts at all. This is inexcusable considering the large impacts discussed in each EIS and the interconnected nature of the regional hydrologic system.

Changes in proposed actions in each EIS (e.g. delay of NMGS and Star Lake Railway) render the discussions in the CO obsolete. The CO should be replaced by current analysis in a regional EIS.

Synergistic effects between air pollutants must be considered and are not.

The Coal EIS states that PSD review is not required because surface mines rarely emit greater than 250 tons/year. 2-2. The CO, however, shows most mine emissions in excess of that figure. Table 3-1.

The study areas for air quality and visual resources, 1-31, are too limited. Regional haze, by definition, extends beyond 12.5 Km from NMGS. Most viewing occurs, not from "key viewing points" but from dwellings and roads.

The CO states that Indian religious sites have not been inventoried systematically. NEPA requires a "systematic, interdisciplinary approach."

The CO does not commit BLM to specific measures to mitigate cultural resource losses. 3-13; nor even to define a planning process for, such specific measures. 1d.

The population projections in Table 3-9 should be supplemented by comparative data on historic population.

The CO states that the proposed actions would not cause a cyclical boom-bust pattern in the next 50 years. 3-33. Inherent in the mineral industry, however, is a non-cyclical boom bust.

DNA PEOPLE'S LEGAL SERVICES, INC.

POST OFFICE BOX 308
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TELEPHONE 1602/841-811

6 April 1983

State Director, 91x
U.S. Bureau of Land Management
Post Office Box 1449
Santa Fe, New Mexico 87501

Re: Draft EIS - New Mexico Generating Station
and New Town

Dear Sir or Madam:

This organization represents individuals and local political entities (Chapters) in the San Juan Basin which would be affected if the proposed action is adopted. Our comments are as follows:

1. The State of New Mexico, Navajo Tribe, Bureau of Indian Affairs, Bureau of Reclamation, National Park Service, all Chapters, and others have conveyed to the BLM, either formally or informally, that their preferred alternative is "no action." Why did BLM adopt the 2,000 - megawatt alternative as the preferred alternative?
2. The EIS is inadequate because BLM failed to develop information needed to assess the need, if any, for NMGS. BLM cannot validly rely the interested applicant for this assessment.
3. Because of the synergistic effects of the many related projects in the San Juan Basin, an EIS to address cumulative impacts for the Basin must be done prior to granting rights to NMGS, as suggested by the BIA. (hereinafter, "Regional EIS")
4. The timetable on p. S-2 is already invalid. The EIS should be changed to reflect new data, a true "delay of action" alternative rigorously explored, and the two alternatives rejected on p. S-6 should be reconsidered in light of the new timetable.
5. The EIS states on p. S-9 that impacts from damage to religious and cultural sites are unknown. These impacts must be known (as well as impacts for alternative actions) prior to any granting of rights to PNM. Otherwise 42 U.S.C. §1996, 42 U.S.C. §4332, 16 U.S.C. §470f, and EOL1593 will be violated. In light of the lack of need for the plant in the near to medium term future (if not for the long-term), there is no reason to grant rights now and resort to "emergency" procedures for historic properties. (P. 1-5)
6. No mention was made of effects on the Crownpoint water supply if water is taken from the Westwater Morrison. The economic and social costs must be assessed and balanced against other factors in the EIS. The same holds true for the springs in the Chuska's. What are they used for? What quantitative effects are expected? How does the BLM factor these

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things into its balance.

7. The basis for the assumption that the State Engineer has authority over water in Indian country should be expressed. (P. 1-5)

8. The new town and associated coal mine are inextricably tied to NMGS and must be analyzed in the EIS.

9. BLM states that to "deplete the average annual supply of water in the San Juan River system in New Mexico by 35,000 acre-feet per year" is not significant." Pp. 3-28 and 5-7. Now was an effect of about 9.2% of the entire river flow in dry periods determined to be insignificant? What evidence, if any, was used to determine that 15% of stream flow is the proper benchmark for significance of water resources in the San Juan River?

10. Page 1-29 states the "reprimanda" will be issued for violations of federal law regarding artifact gathering. The applicant should be required to educate employees to the requirements of the law, and violations should be reported to the proper authorities.

11. What are the qualitative effects of a 4% increase in the TOS of the Colorado River resulting from this project? (p. 1-33)

12. The sixteen wells for the alternative water source will be "widely spaced." Effects of the water collection and delivery system for these wells should be set out on Table 1-8.

13. Why is there not an alternative mentioned for having one corridor for all transmission lines? What impacts would be mitigated or worsened by this arrangement?

14. What mitigation will the BLM require for grave sites, offering sites, herb collection sites, historic battle sites and other religious sites?

15. What efforts is BLM actively taking to meet the continuing duty of EO 11593, whose provisions for inventory completion have been violated for about ten years? (See p. 2-16)

16. Now many BLM archeologists are employed to do (and are doing) the surveys required by EO 11593?

17. Clearly, the adverse effects of the proposed power plant will be felt most significantly by Native Americans. Clearly, enforced Indian preference would ameliorate the damage. (Compare employment statistics at San Juan Generating Station with Four Corners, p. 3-26) Will BLM, in furtherance of its trust duty, require Navajo preference in employment, assuming the plant is eventually built?

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29. Pages E-5 through E-11 were out of order, though numbered consecutively.

30. PNM, in its letter of March 29, 1982 (p. E-5), notes that it promotes a strong conservation program. Does this refer to their television advertisements? If so, do these advertisements really contribute to the effectuation of our National Energy Policies?

31. The PSD analysis cannot be delayed consistent with NEPA, although other agencies have primary responsibility for air quality. (P. 3-1)

32. Neither table 3-2 nor 3-3 purports to analyze pollutants with the cumulative effects with baseline 1 and 2 impacts included. This should be done.

33. Although effects of acid rain on the endangered species can't be "quantified," the best estimate of the effects should be disclosed.

34. Page 3-39 gives a ratio of .305 for energy output/energy used. What are the comparison figures for the other alternatives? These should be disclosed.

35. The NEPA cost/benefit analysis should consider and balance the effects (not felt in the Torrence County site or some other alternatives) of precluding use of coal underlying the NMGS sites, the water system, and the transmission lines. The cost-benefit analysis, as an example, should also quantify as best as possible through an inter-disciplinary approach the following factors:

- (a) no archeological sites to be affected at Torrence
- (b) no Native American sacred sites to be affected at Torrence
- (c) no endangered species effects at Torrence
- (d) no effects on Indian infrastructure at Torrence
- (e) no effects on Navajo land selection at Torrence
- (f) no effects on paleontological resources at Torrence
- (g) fewer water conflicts at Torrence
- (h) no effects on WSA's at Torrence.

After this analysis, the decision-maker could then make a decision based on all factors.

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18. Table 1-7 suggests that no increased money for social infrastructure is expected for Indian communities. The EIS should address the qualitative effects of increasing the burden on Indian infrastructure without the demonstrated ability of the communities to demand portions of the taxes levied.

19. Has the applicant expressly agreed to the condition that, p 1-30:

The applicant would attempt to enhance any potential opportunities to improve local facilities and services utilized by Native Americans (e.g., water supply, access roads) whenever possible.

If so, what does BLM believe to be the extent of the duties imposed by such agreement and how would it be enforced? Is a private right of action to be granted in the agreement to facilitate enforcement?

20. On page 2-25, the Lee Ranch Mine is improperly located at Star Lake.

21. No permit exists for the Star Lake Railroad. (p. 2-24)

22. The EIS should note that almost all of the roadways in the Eastern Navajo Agency have been construed illegally, and users of the roads are trespassers.

23. The figure of "40 miles" for the unpaved portion of 371/57 is not correct. (p. 1-26)

24. Given that traditional Navajo lifestyles will be hardest hit from the "proposed action" and related actions, why does the EIS devote so little qualitative discussion of the effects? How can BLM do an informed cost/benefit balance without better information?

25. The EIS should inform the decision-maker and the reader of the probable lack of success in revegetation and reclamation. See West 81st EIRIA. Compare p. 3-10.

26. On p. 2-42, the unique and very important archeological sites in the Black Lake area should be mentioned and effects discussed. This is one of the few locations where large numbers of sites of various periods can be studied undisturbed by post-depositional erosion and redeposition. (School of American Research, p. 31)

27. On p. 2-42, what does "presumed eligible" mean? Have the sites been nominated? If not, why not? (See E.O. 11593, 16 U.S.C. §470f)

28. Now many sites in the area of the proposed action have been nominated for the Register and in what years?

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36. The alternate sites are not even described geographically or shown on a map with any precision.

37. Similarly, the statement that out-of-state impacts (p. 3-50) would be similar is unsupported by any facts. Such a statement must assume that all out-of-state sites will have the same Native American conflicts, the same effects on a wilderness area or areas (and that all wilderness areas are susceptible to the same types of effects despite variations in characteristics), the same archeological and paleontological resources, etc.

38. The same applies to the "decentralized" alternative. What are the potential sites? Did PNM supply information on each specific site under this alternative? Did BLM make any inquiry?

39. What reasons are presented in the EIS to justify a decision not to select the conservation alternative, since impacts are "minor"? (p. 3-51)

40. What is the feasibility of meeting electrical demand through the near to medium term future by way of conservation plus wind energy plus biomass?

41. A most serious weakness of the EIS is the failure to analyze a true delay of action alternative, given the lack of need for NMGS in the foreseeable future.

42. Mitigation measures acceptable to the Navajo Tribe and to affected individuals must be required by BLM, not just suggested. (p. 3-57)

43. The BLM had extensive testimony and data from reliable sources concerning serious effects of the proposed action, but failed to mention this in the EIS. The hearing held at Pueblo Pintado on July 21, 1982 concerned PNM's proposal solely. Probable health effects were noted, yet no mention of them is made in the EIS. Testimony from potential relocatees from the FJUA, from governmental officials (e.g., BIA, Navajo Tribe), from environmentalists, and from residents of the area was unanimous in its condemnation from an environmental standpoint of the proposed action. I incorporate the testimony and written submissions of that hearing in these comments by reference, as I do with my own written statement submitted on July 21, 1982.

44. It is inappropriate for WCC to have prepared the EIS in large part. BLM has abdicated its responsibilities to the private sector contrary to NEPA, despite formal disclaimers to the contrary.

45. The alternatives section should be the linch-pin of the EIS. Instead, it is superficial and inaccurate. It needs total revision after serious study.

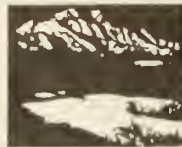
Letter to State Director
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Page six

Thank you for this opportunity to comment on the Draft EIS.

Very truly yours,

Paul E. Eryc
Paul E. Eryc
Attorney-at-Law

PEF/cc



SIERRA CLUB
LEGAL DEFENSE FUND, INC.

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April 8, 1983

State Director (912)
Bureau of Land Management
New Mexico State Office
P.O. Box 1449
Santa Fe, New Mexico 87501

Dear Sir/Madam:

Enclosed please find comments of the Sierra Club prepared by the Sierra Club Legal Defense Fund, Inc. regarding the draft San Juan River Regional Coal Environmental Impact Statement, the draft Proposed Wilderness Areas Environmental Impact Statement, the draft New Mexico Generating Station and Possible New Town Environmental Impact Statement, and the draft San Juan Basin Cumulative Overview.

Sincerely,

Mark W. Roberts
Mark W. Roberts
Rocky Mountain Office

encl.

MWR/rs

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Comments of the
Sierra Club on the
San Juan River Regional Coal
Environmental Impact Statement
Environmental Impact Statement of Public
Service Company of New Mexico's Proposed
New Mexico Generating Station and
Possible New Town
Proposed Wilderness Areas Environmental
Impact Statement
Draft San Juan Basin Cumulative Overview.

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Introduction

These comments on the San Juan River Regional Coal Environmental Impact Statement (SJRRCEIS), Environmental Impact Statement on Public Service Company of New Mexico's Proposed New Mexico Generating Station and Possible New Town (NMGS EIS), Proposed Wilderness Areas Environmental Impact Statement (PWA EIS), and the Draft San Juan Basin Cumulative Overview (SJBCO Overview) are submitted by the Sierra Club Legal Defense Fund on behalf of the Sierra Club. They should be considered as supplementing the comments submitted by the New Mexico chapters of the Sierra Club on the aforementioned documents.

The comments assess the four EISs individually, addressing omissions, inherent bias, and issues which require additional research in order to fulfill the requirements of the EIS process. Since each of the proposals is different it is not possible to make comments of general applicability about them. However, it is possible to make three general comments about the structure and scope of the EISs.

1. The EIS documents do not contain sufficient information about the Bureau of Land Management's (BLM) plans for mitigating the impacts of the proposed activities on wilderness, paleontological, archaeological, water, air quality, Native American and cultural resources. The agency has decided to defer the development of mitigation and protection measures to a later date. This

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cuts off public input into this important decisionmaking process and makes it impossible to determine what the ultimate environmental impacts of the action proposed will be.

2. The structure of the EISs is biased in favor of the action preferred by BLM. The SJBCO considers only the actions proposed by BLM; the NMGS EIS conducts a complete analysis only of the proposal preferred by BLM; the RWS EIS does not systematically examine the effects of Wilderness or non-wilderness designation on each of the three WSAs. Such inherent biases reduce the usefulness of the EISs in agency and Congressional decisionmaking, and in informing the public of the consequences of the various alternatives available to BLM.

3. The discussion of water in all the EISs is unduly limited. The fundamental question, whether sufficient water exists in the San Juan Region to supply all of the proposed projects, is not addressed. The withdrawal of as much as 56,100 acre-feet/year of water from this water-poor region is a significant adverse impact that requires detailed consideration prior to approval of these projects.

I. San Juan River Regional Coal Environmental Impact Statement

The SJRRC EIS was prepared to discuss the environmental, social and economic impacts of mining thirty-nine new

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competitive coal tracts and twenty-six existing Reference Right Lease Applications (PRLAs) in northwest New Mexico. The document does not contain sufficient information about BLM's plans for mitigating the impacts of mining and related activities on wilderness, water, air quality, paleontological, Native American and cultural resources. Many important decisions related to the protection and mitigation of these resources have been left to be worked out at the mine plan stage or prior to the start of mining. Deferring such important decisions to later stages is not in the best interests of the public or the environment of the San Juan River Region.

A. PRLAs

The PRLAs are discussed in the SJRRC EIS as the "no action" alternative. BLM states that no independent EIS has been prepared in relation to the issuance of the RRLAs "because of the RRLA processing requirements and the lack of secretarial discretion to issue a lease for a PRLA that meets final showing requirements," (SJRRC EIS, errata, p. 1).

The above approach to the RRLAs is contrary to the decision in NRDC v. Berkland, 458 F. Supp. 925 (D.D.C. 1978), aff'd 609 F.2d 553 (D.C. Cir. 1979) which held that an environmental impact statement is required prior to the issuance of a PRLA even though the issuance is a non-discretionary act. The court found that leasing represents an irretrievable, irreversible commitment of resources within the meaning

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of NEPA, and thus is subject to the impact statement requirement of Section 102(2)(C) of the Act. The court further held that when issuing a PRLA the Secretary of the Interior must choose between a number of available courses of action, any one of which will either directly or indirectly determine whether a lease will issue. These alternatives should be analyzed according to NEPA procedures.

2. Another serious flaw in the SJRRC EIS's consideration of the PRLAs is the absence of analysis of the legal status of the original prospecting permits upon which the RRLAs are based. Many of the original exploration permits were protested by USGS personnel on the grounds that the coal resource was already well known, and, therefore, should have been leased competitively. Coal has been known to exist in the Chaco area since at least 1885. The Final Environmental Impact Statement on the Federal Coal Management Program (Coal EIS) notes that 1.1 billion tons of the 1.5 billion tons of recoverable PRLA reserves are subject to "legal questions," i.e. "reserves under applications which have not met Department procedural or legal requirements--initial showings not made, or filed past deadline, or the RRLA was filed for land already subject to a mining claim" (BLM, 1979, p. 2-42).

The SJRRC EIS presentation of the PRLAs assumes that they will be issued according to plan. No mention is made of the fact that RRLAs covering as much as 1.5 billion tons of the estimated 1.75 billion tons of recoverable coal may not be

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issued because of legal infirmities. This fact will substantially impact any analysis of the effects of additional leasing on the San Juan Region, as it will change the base environmental conditions against which the environmental impacts will be measured.

3. The EIS indicates that no explicit, meaningful measures for mitigation of paleontological occurrences are required as a condition of issuance of the RRLAs except for a ten year reprieve for the fossil forest. The San Juan region is internationally famous for the wealth of important paleontological sites that have been found, but much of the region has yet to be surveyed. To allow strip mining without first assessing what resources are present would clearly not "fulfill the responsibilities of each generation as trustee for the environment for succeeding generations," (42 U.S.C. 4341, NEPA of 1969, section 101(b)(1)).

The proposed lease form available at the Albuquerque BLM office contains general language stating that "Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall contact the BLM to determine whether the authorized officer will require the lessee to conduct a paleontological appraisal ... using the published literature and where appropriate field appraisals." Leaving determination of whether to conduct a paleontological appraisal just prior to undertaking activities which may disturb the surface does not adequately protect these valuable

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resource. All public input is excluded from the decision-making process. The lease stipulation does not state what criteria will be used to determine whether or not to conduct an appraisal, or what information the decision will be based on.

A decision was also made not to require a full archaeological survey and unsuitability analysis under Criterion 7 of the Surface Mining Control and Reclamation Act of 1977 (Section 552(b)). The EIS stated that "as provided in the exception to this criterion surface coal mining ... will be allowed only after leasee carries out measures to avoid significant adverse impacts ..." Criterion 7 in its present form, (Federal Register 3-1-83) requires that sites eligible for inclusion in the National Register be unsuitable for surface mining unless consultation with archaeological agencies results in a determination that mining would not result in significant impacts to the properties. However, not a single specific site is mentioned as unsuitable under Criterion 7 (p. 1-14 and P. A-70).

The failure to conduct complete paleontological and archaeological surveys of the PRLAs to determine what sites exist and what mitigation measures are necessary could lead to a tragic scientific loss. Once a site is disturbed and its contents removed, its scientific value is permanently destroyed.

4) No indication is given of exactly where the 12,850 acre-feet/year of water which will be required for mining

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operations will be obtained and whether the rights to this water have already been procured. In light of the general scarcity of water in the region and the increasing evidence that water in the area has already been overallocated, such a large increase in use could have substantial impacts in the region and downstream. The environmental and legal consequences of regional and downstream reductions in water should be included in the EIS in order that the full range of impacts can be assessed prior to issuance of the leases.

5) Throughout production of the EIS, BLM made numerous decisions as to its scope and contents which raise specific concerns and undermine the credibility of the document. The decisions made will have a significant bearing on how much coal in the PRLAs will qualify for leasing, and how many of the twenty-six PRLAs will issue. These include:

*The decision to allow Arch Minerals Co. to include Ah-shi-sle-pah Wilderness Study Area in its final showing of commercial quantities, despite the fact that the draft EA on the PRLAs states that the areas of overlap "would be removed from mining in compliance with the unsuitability criteria [Number 4] so as not to impair the area's suitability for wilderness." The decision to give Arch Minerals the PRLAs was made in advance of the issuance of the draft PWA EIS. Arch Minerals may now hold valid existing rights which will be an obstruction to the designation of the Ah-shi-sle-pah as Wilderness.

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*The decision not to stipulate the measures that companies will be required to implement in order to protect scenic and other values in the Bisti-De-na-zin "Area of Critical Environmental Concern" while stripmining. Delaying the specification of these stipulations until a later time makes it impossible to accurately assess the adverse effects to these environmental concerns prior to decisionmaking.

*The decision not to require any specific means or standards for reclamation. Failure to specify the means of and standards for reclamation renders it impossible to determine when, if ever, the sites will be reclaimed, and what steps the companies will have to undertake before the area is considered reclaimed.

*The decision not to propose any concrete means of preventing subsidence in the course of underground mining PRLAs in the De-na-zin WSA. Subsidence could destroy unique geological structures and paleontological and archaeological sites that the De-na-zin Wilderness would be established to protect.

*The decision not to specifically identify offsite wells that will need replacement water supplies. This is one more example of the lack of investigation into effects of development on the scarce water resources in the area.

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*The decision to arrange for "lawful" relocation of graves instead of declaring them unsuitable as cemeteries under unsuitability Criterion Number 3 of the Surface Mining Control and Reclamation Act.

*The decision to require in-situ preservation of only one of the four known sacred sites on the PRLAs. Other sacred sites on PRLAs will be destroyed if they are still remaining after six months notice to concerned local parties. The MFP decision brochure stated that four sacred sites in this district would be considered unsuitable for coal mining (p. 11).

*The decision not to legitimize the Navajo occupants of the PRLA areas, despite the fact that the Final EA on the PRLAs acknowledges that the Navajo in the San Juan-Chaco area have, in most cases, lived there since the Long Walk of 1864. The decision was made without discussion of any of the twelve alternative methods of resolving these conflicts articulated in the final EA of the PRLAs.

*The decision not to require any compensation to residents for relocation costs, loss of stock, range improvements, or buildings. Page 3-29 of the SJRC EIS states that people on community grazing allotments will not be compensated for loss of grazing, and Page A-68 does not seem to require the companies to pay the costs

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of purchasing new grazing rights, housing, or range improvements for persons occupying the leaseholds.

Numerous BLM decisions have been reversed, with a significant change in environmental impacts, since the time of the PRLA EA. For example, the Draft PRLA says:

[Unsuitability] criteria 2, 3, 4, 6, 7, 9, 11, 12, 13 and 15 may be expected to result in the determination of unsuitability of all or portions of some PRLAs. ... It is to be expected that final determination of unsuitability will be completed in time for inclusion in the Final EA.

In fact, only three criteria (4, 11, and 14) have resulted in the declaration of any areas as unsuitable (Coal EIS, p. 1-14) -- this in a document issued 1 1/2 years after the draft EA. Criteria 6, 9, 12, 13, and 15 have been found to have no effect (Coal EIS, p. 1-13). Thus there has been considerable change in the proposed action and its impacts since the time of the EA, and up-to-date environmental analysis is needed.

A final showing certifying that each owner had found commercial quantities of coal was submitted to BLM in February 1983 for each of the twenty-six PRLAs. If BLM had invoked the criteria discussed above, portions of the PRLA areas would have been declared unsuitable for mining because of their wilderness, cultural and Native American resources. Other areas might have been found not to contain commercial quantities of coal due to the increased costs of reclamation

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or the prevention of subsidence, and not all of the owners would have been able to demonstrate commercial quantities of coal.

B. San Juan River Regional Coal Leasing (Competitive Leases)

The proposal to open new areas in the San Juan River Region to competitive coal leasing raises as many questions as the issuance of the PRLAs. Unfortunately, the SJPRC EIS does not go very far toward answering many of the major issues raised. The lack of concrete information as to what actions BLM is planning to take to protect and mitigate impacts on wilderness, paleontological, water, air quality, archaeological, Native American and cultural concerns is particularly distressing as it makes it difficult to assess what the impacts will be.

1) The SJPRC EIS does not address the need for the proposed coal development or the market for which this coal will be produced. A recent study of coal market conditions conducted for the New Mexico Energy and Development Institute by DRI found that demand for New Mexico coal in 1990 would be 29.5 million tons or less. The study concluded that existing mines, plus mines already holding plans, could produce 28.8 million tons in 1990. Before approval is given to issue new competitive coal leases and expand mining operations in the San Juan Region, there should be a demonstration that there exists a real demand for the additional coal.

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2) The discussion of water resources (p. 2-18 to p. 2-24, p. 2-49 to p. 2-55, p. 3-8 to p. 3-12, and p. 3-61 to p. 3-63) is an example of the approach followed throughout the EIS. A description of the environment and the physical effects of the proposed action is presented, but the analysis does not assess the extent of present uses of the water, or the repercussions to those uses of the noted physical effects. The discussion of ground water in Chapter two, "the affected environment," gives a description of the underground water, general movements of the water, and water quality. There is no discussion, however, of the extent and seniority of existing uses, or whether an excess of 3,700 acre feet/year which will be required for the proposed target alternative is available in the area.

The discussion of surface water does not present sufficient information to allow an evaluation of the actual effects of the proposed development. (p. 2-49 to 2-55). The first paragraph states that data about surface water on individual coal tracts do not exist. The EIS claims that this should not be a concern because the information will be collected before mining is approved on any individual tract. In an area of the country where water is the limiting factor on industrial, agricultural and domestic use of the land, a detailed analysis of this resource should be a prerequisite to approval of any new projects, and therefore should be included in the EIS.

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Similarly, in the discussion of the environmental consequences of mining, there is a description of anticipated physical effects such as "drawdown," and "less recharge" (p. 3-8, 3-11, 3-61), but the EIS does not analyze how the stated effects will impact the environment or the existing users of the water of the San Juan Region. Such discussion is essential to ensure that water critical to preservation of the existing environment is not removed, and that the proposed projects will not violate existing rights.

3) Unsuitability analysis, one of the most important safeguards in the coal leasing program, is made totally incomprehensible by the SJPRC EIS. Throughout the discussion of unsuitability criteria, exceptions and/or exemptions of the criteria are repeatedly invoked and unsuitability decisions are delayed to a later time. The following are some examples:

Criterion 1 has not been applied to the areas which would be traversed by the proposed Continental Divide National Scenic Trail, because "the actual treadway ... has not been established." (p. 1-15).

Exceptions and/or exemptions of Criteria 2, 3 and 16 have been applied. Unidentified "special stipulations" will be included in each lease permit. Without the text of the stipulations or a description of what they are intended to protect it is impossible to determine if they will have any effect in mitigating the effects of mining (p. 1-15).

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The exception to Criterion 7 has been applied so that surface mining on tracts with identified archaeological sites will be allowed after the lessee has taken measures to avoid significant adverse impacts. However, the decision not to require 100% surveys on tracts to be strip mined makes this criterion meaningless. It was estimated by Nancy Wood of the New Mexico State Historic Preservation Office that there are as many as 2,000 undiscovered archaeological sites on the proposed competitive lease tracts. It is not clear from the EIS whether there is a duty to find these sites and mitigate the effects of mining, or whether mitigation is only necessary for the known sites.

The MPP update brochure stated that 3,710 acres had been found unsuitable under Criteria 11, 12, 13, 14, with most of the acreage located in the La Plata area. However, in the SJRRC EIS, only 75 acres are listed as unsuitable under Criterion 11, and 115 acres are listed as unsuitable under Criterion 14. No acreage is listed as unsuitable under either Criterion 12 or 13 and further, no part of the La Plata tracts were found unsuitable.

Criteria 5, 6, 8, 9, 10, 12, 13, 15, 17, 18, 19, and 20 are simply dismissed with the statement, "After consultation with the U.S. Fish and Wildlife Service and the State of New Mexico, these criteria have been found to have no effect on the suitability of the PRLAs or competitive coal lease tracts to be mined." No support for this decision is provided in the EIS.

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leases (target alternative) would increase total suspended particulates (TSP) by 234 ug/m³. (Table 3-1). This, added to the base TSP of 30 ug/m³ (p 2-2), would appear to cause a violation of the New Mexico TSP 24 hour standard. However, there is no discussion of where the violation would occur and what the effects would be.

A similar comment can be made about the statement that the PSD Class II 24-hour limit could be exceeded near mine boundaries. Where will these occur? What are the regulatory, visibility and health implications of such violations? Obviously, these matters merit attention in the EIS.

6) The EIS states that under the target alternative, the visual resources of 4,070 acres of the Bisti Badlands would be significantly impacted, and an additional 35,977 acres would be affected by actual mining operations (p 1-30). Within the discussion of possible mitigation measures (SJRRC EIS p. 3-51) it is stated that "all surface disturbance ... will be reclaimed to a scenic quality eligible for their pre-mining VRM Class or better." As noted above, the discussion of long term reclamation is minimal, and therefore, this general statement is meaningless. Further discussion as to how the area will be re-claimed is necessary before an assessment of the long term visual impacts can be made. Of even more importance, there is no discussion of mitigating the visual effects of the mining during the 20-40 year life of the mining operations.

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The manner in which the unavailability criteria were dispensed with is legally unacceptable. If exceptions and exemptions are to be applied, the basis for doing so, and the actual lease stipulations to be used to mitigate the damage done should be set forth for comment. Furthermore, the rationale for the decision that criteria do not apply should be presented and discussed. For example, the grounds for the contention that the fossil forest does not qualify as a national natural landmark under Criterion 8 should be reviewed before this unique area is mined.

4) Section 522(b) of SMCRA requires an assessment of whether reclamation is technically and economically feasible on federal coal lands. The SJRRC EIS contains no such assessment. Conflicting statements are made as to when and whether grazing will be allowed on the reclaimed lands (p. 3-3, p. 3-25). Additionally, there is no discussion of the likelihood of long-term success of reclamation without irrigation and under grazing pressures. In fact, the March 1982 Site Specific Analyses ranked the potential of reclamation as "low" in all tracts except for the Crownpoint, South-of-Gallup, Camerco and Hospah area tracts which were ranked as "low to moderate." No discussion of reclamation from a geomorphic standpoint occurs anywhere in the EIS.

5) The evaluation of air quality issues is extremely confused and not intelligible to the average reader. It appears that the combination of the PRLAs and competitive

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7) The discussion of relocation of residents in the area is woefully incomplete. There are no references to the literature on the emotional and political trauma associated with past relocation projects such as the Hopi-Navajo partition and the Navajo Indian irrigation project. There is no discussion of the economic consequences and intricacies of relocation. There is no indication where the relocated people will go in an area already grazed to capacity.

II. Proposed Wilderness Areas Environmental Impact Statement

There are significant problems of inherent bias in the structure and presentation of the PWS EIS. The PWS EIS parallels BLM's recommendations concerning designation of the Wilderness Study Areas. This structure skews the analysis presented in that three of the four alternatives considered presume non-wilderness designation for Ah-shi-sle-pah WSA. Rather than analyzing all three WSAs systematically, and discussing both Wilderness and non-wilderness designation for each one in the same manner, proposal Number 1 suggests Wilderness designation for the Bisti and De-na-zin WSAs and non-wilderness designation for Ah-shi-sle-pah WSA. Wilderness designation for Ah-shi-sle-pah WSA is not considered until proposal Number 4. The presentation of wilderness designation for Ah-shi-sle-pah as the final alternative diminishes the possibility of such designation for that area.

The approach used conflicts with the statement of the purpose and need of the EIS which appears in Chapter 1. There it

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ia recognized that an analysis of the wilderness qualities of all the WSAs is necessary to provide BLM managers and congressional decisionmakers with an adequate data base with which to make decisions.

To constitute an objective examination, the PWS EIS should evaluate the environmental effects of Wilderness and non-wilderness designation for each of the three WSAs, setting forth the effects of the designations on each one. The analysis would then be useful for congressional decisionmakers attempting to compare the quality of the wilderness values present in each of the WSAs.

An examination of Appendices A, B and C demonstrates that all three WSAs meet all of the criteria necessary for qualification as Wilderness areas. The coal resource values of each WSA are identified as follows:

- 1) Bisti WSA contains 90 million tons of recoverable coal; De-na-zin WSA contains 140 to 200 million tons of recoverable coal; Ah-shi-sle-pah WSA contains 270 million tons of recoverable coal (table 2-1, p. 3-6).
- 2) 320 acres of the Bisti WSA are overlapped by PRLAs; 7706.05 acres of the De-na-zin WSA are overlapped by PRLAs; 5355.40 acres of Ah-shi-sle-pah WSA are overlapped by PRLAs.
- 3) Bisti WSA is closed to mineral leasing; De-na-zin WSA coal reserves are mineable by underground methods; Ah-shi-sle-pah WSA coal reserves are surface mineable (p. 3-2, p. 1-23).

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rapidly dropped in recent months, typified by the February, 1983, 12% drop of coal consumption over the same period last year, led by a 50% decline in exports. (Dean Witter Reynolds, Summaries of Institutional Reports for the Week Ended March 18, 1983, RR 642/29, p. 10)

(3) As stated above, the demand for New Mexico coal is not predicted to increase. The capacity of present mines and mines already holding plans could almost meet the demand without issuance of the PRLAs or the competitive leases. This means that coal from areas such as the Ah-shi-sle-pah WSA will not be needed until well into the next century. There is no reason to develop this coal at a time when the market is low and critical national decisions are being made about Wilderness designation.

(4) BLM's claims that the "conflicts with other resource values offset the advantage of Wilderness designation" assumes that the status of the PRLAs is legally sound. However, as mentioned earlier, leases for 1.1 to 1.5 billion tons of the estimated 1.75 billion tons of recoverable coal are subject to legal questions and may not be issued.

In summary, only a substantial reordering of the material presented in the PWS EIS will remove the inherent biases that are now present. A full survey of the resources and Wilderness qualities which will be lost should be clearly presented as well as a thorough analysis of possible mitigating measures for the predicted environmental impacts. This information is

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- 4) No value is placed on Bisti WSA recoverable reserves; gross value of De-na-zin WSA recoverable reserves is placed at \$4.4 billion; gross value of Ah-shi-sle-pah recoverable is placed at \$5.94 billion with net value (not calculated for other two WSAs) is placed at \$2.43 billion.

BLM bases its recommendation of non-wilderness designation for Ah-shi-sle-pah WSA on the conclusion that "the conflicts with other resource values offset the advantage of Wilderness designation" (p. C-9). This may be the case, if only the facts set forth above are considered. However, four additional factors must be added to the equation.

(1) BLM has established a procedure by which PRLA areas which overlap with a designated Wilderness area may be declared unsuitable for mining and exchanged for other leases of equivalent value. (43 C.F.R. 3430.5-4). Such an exchange would remove any competition between valid existing rights and Wilderness designation.

(2) The BLM calculation of projected lease sale value appears to be extraordinarily high, since the average winning bid at the 1981 Powder River Wyoming coal sale was only 3.5 cents per ton. The estimated value of the coal reserves anticipates a sale price of \$22 per ton, yet recent price negotiations with the Japanese forced U.S. producers to accept a \$10-12 per ton price reduction. Additionally, Dean Witter Reynolds has reported that coal consumption has

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essential so that the Congressional decisions about Wilderness designation are based on facts, rather than a choice between one alternative where "Wilderness preservation values (unquantified) would be lost" and another where "Stripable coal reserves with a gross value of \$5.94 billion could not be mined," (p. 1-23).

One comment about the specifications of the boundary of the proposed De-na-zin WSA is in order. It is unclear why BLM decided that the preferred method to resolve the occupancy question was to drop approximately eleven sections from the northern portion of the De-na-zin. Alternative methods of resolving this problem should be detailed in the final document, particularly since there is evidence that valuable fossil sites occur within the acreage that has been dropped.

III. New Mexico Generating Station Environmental Impact Statement

A. New Mexico Generating Station

The NGMS EIS is flawed in three significant respects. The discussion of alternatives (except perhaps the alternate pipeline and transmission routes) is not sufficiently detailed to allow an educated comparison with the proposed action; the discussion of the water needs of the project is incomplete and fails to address legal questions of surface and ground water availability; the discussion of the probable impacts of plant emissions on air quality fails to evaluate, or only minimally examines, some of the most significant possible impacts.

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The CEQ regulations identify the section which describes the alternatives to a proposed action as the heart of an EIS, and direct that the environmental impacts of a proposal and its alternatives be presented in a comparative form, thus sharply defining the issues and providing a clear basis for choice by the decisionmakers and the public. (40 C.F.R. 1502.14) The alternatives presented in the NMGS EIS have not been sufficiently developed to stand on their own, or to undergo any sort of in-depth comparison with the proposed action.

No real consideration of the no-action alternative is given in the EIS. (table S-2) The underlying assumption is that the energy from the generating station will be needed and will have to be obtained from somewhere, an assumption of doubtful validity at this time. PNM has consistently projected greater economic growth in New Mexico than has actually occurred. This is dramatically illustrated by the fact that PNM's prediction of ten-year growth rate is more than twenty percent lower in 1982 than it was in 1981, and is predicted to be even lower in the 1983 demand forecast. These drops in anticipated demand have led to public statements by PNM officials that the date for start-up of the NMGS will be delayed until at least 1995. The evaluation of the no-action alternative should be supplemented to include an examination of the demand for electric power in the PNM distribution system and an analysis of the consequences of not building the plant.

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tons per year of NO_x is limited to the statement that "no qualitative techniques are currently available with which to project acid precipitation formation and the effects due to a particular source." This claim is contradicted by the scientific literature of the past twenty years. It may not be possible in many cases to definitively identify a particular plant as the sole cause of the acidification of a particular lake; however, it is possible to predict the general effects of plant emissions and how much a plant will add to the acid burden of an area. It is also possible to analyze storm trajectories to determine the percentage of plant emissions which will be carried over the poorly buffered areas of northern New Mexico and southern Colorado. These analyses are crucial to determine if the NMGS should be approved, and if it is approved, what air pollution control devices will be required.

The EIS also fails to consider any alternatives to the tall-stack emission system. Recent studies have concluded that the tall-stacks simply solve a local problem by depositing the emissions at a level more favorable to long range transport, thereby creating a regional/national problem. The existing air control systems should be analyzed to determine what portion of the expected emissions can be effectively recovered.

The discussions of the viability impacts of the plant are restricted to plume impacts and the impacts of emissions

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The EIS and supporting documents provide no information on the design of the water-using components of the power plant because they are, as yet, undesigned. Since both the quantity of water required and the quality of that water are a function of the design of the plant's cooling, piping, evaporation, treatment and storage systems, it is difficult to determine the validity of the 35,000 acre-feet/year estimate of water need, or assess the evaluation of water quality.

Other important factors were omitted from the consideration of water issues in the EIS. Evaporative losses from storage ponds are not discussed, although such losses in the San Juan Region can be substantial. The impacts of evaporation on both quantity and quality should be thoroughly assessed. The discussion of the affected hydrologic environment also omits a review of the hydrology of the San Juan River and information on low-flow effects and long-term flow trends.

No pre-existing uses of the water resources in the San Juan Region are identified in the NMGS EIS. Nor does the EIS address whether the 35,000 acre-feet of water per year which will be required when the plant is in full operation is freely available in the San Juan Basin.

The review of the effects on air quality of the power plant is deficient in several significant ways. The analysis of the possible environmental consequences of the emission of more than 30,000 tons per year of SO₂ and more than 40,000

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on days of average visibility. The EIS fails to analyze generalized haze impacts, or the impacts on visibility on the clearest days. It will be these latter impacts which will most significantly affect San Pedro Park, Mesa Verde National Park and Chaco Culture National Historic Park.

B. New Town

The inclusion in the NMGS EIS of an environmental analysis of the possible new town appears premature and the analysis is insufficient to qualify as an EIS. Although no need for the town has been established, a detailed description of the possible town is not available, potential population estimates vary by almost 300%, the site of the town has not been established, twenty-two pages are devoted to "environmental analysis" of the project. Since none of this information will be available until a final decision on the Ute Mountain Land Exchange has been settled, the discussion is only useful to alert the governmental decisionmakers of the fact that one possible use of the public lands in the Ute Mountain Land Exchange is the creation of a new town.

Despite the fact that the discussion of the new town is referred to as an EIS on p. II-1 and 4-1, it certainly does not qualify under NEPA for this designation. Consequently, all references to this document as an EIS should be deleted, and a paragraph inserted at the beginning of Chapter 1 stating that the discussion of the new town is not an EIS, and that

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should the Ute Mountain Land Exchange be approved a comprehensive EIS will be prepared. Furthermore, it should be noted that any development of a new town on the exchanged lands is contingent upon the satisfactory completion of the EIS process.

IV. San Juan Basin Cumulative Overview

The SJBCO is not an environmental impact statement. Nowhere in the document is there discussion or analysis of any of the alternatives to the actions proposed by BLM; nor does it consider the future of the region under a no-action alternative. NEPA requires federal agencies to prepare comprehensive impact statements for federal proposals which involve synergistic environmental impacts. (Kleppe v. Sierra Club, 427 U.S. 390 (1976)). The NEPA implementing regulations of the Council on Environmental Quality also require that the scope of an EIS reflect the scope of the proposed action. (40 C.F.R. 1508.25; Aberdeen & Rockfish R. Co. v. SCRAP, 422 U.S. 289 (1973)). Since the Department of the Interior regards all of the various proposals for the San Juan Basin as a regional action, an EIS of regional scope is appropriate. The attempt by BLM to avoid this requirement by incorporating the Cumulative Overview by reference in each of the individual EISs is not legally sufficient.

The production of a cumulative overview of six separate but interrelated proposals is a massive task, and unfortunately some serious omissions have occurred.

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a worst case situation in which a PRLA mine is located close to another mine."

Finally, since the proposed PRLAs and competitive coal tracts abut all three WSAs, an analysis of the effect of particulates on these areas is warranted. Figure 3-3 shows the impact on TSP levels beginning one kilometer from the mine boundary. However, because the concentration of particulates rises exponentially, the most significant impact would occur in the first kilometer from the mine boundary. If the impacts were found to be significant in that first kilometer, the land adjacent to the WSAs might qualify as unsuitable for mining.

Another significant omission in the Cumulative Overview is the absence in the discussion of the effects on cultural resources of consequences to the Native people who continue to use the area.

The SJBCO summarizes the impacts from the actions proposed by BLM and adds some generalities. No attempt was made to identify synergistic impacts, and a more detailed analysis of the additive impacts is necessary. It seems improbable that in a compilation of projects of this size the combination of non-significant impacts does not lead to a single significant impact. In fact, in the SJRRRC EIS the effect on air quality was found to be very significant while in the SJBCO the significance of the impact is qualified by the statement, "It is not clear whether the affected area

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Most prominent of the omissions is the failure to discuss the cumulative impacts of the various actions on the water supply of the region. The proposed NMGS will require 35,000 acre feet of water per year. Development of the PRLAs will require approximately 12,850 acre-feet of water per year. The target alternative for competitive coal leasing will require approximately 3,700 acre-feet of water per year. The proposed new town will require up to 4,550 acre-feet of water per year. In an area where water is a scarce resource and where there is speculation that the major water source, the San Juan River, is already over allocated, an increased demand of up to 56,100 acre-feet of water per year is an environmental impact significant enough to warrant discussion.

Consideration of the cumulative effects of the individual proposals on air quality is also severely deficient. The discussion of air quality fails to analyze the synergistic effects between SO₂ and particulates or between SO₂ and NO_x. Further, it fails to consider increased vehicular traffic as a source of CO, NO_x and particulates. Additionally, the SJRRRC EIS found that the New Mexico 24 hour standard for total suspended particulates would be violated in some coal mine areas by up to 84 ug/m³. The SJBCO does not clearly indicate how much this will increase due to the NMGS nor does it indicate where these violations will occur. The most precise description of when the TSP standard will be violated is given on page 3-2 when it is stated that it "may occur in

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would be subject to ambient standards, due to its close proximity to the mine. However, if the area were subject to ambient standards, this level would constitute a significant impact." Cumulative impacts of the entire range of proposals presented in the various EISs are essential to provide a sound basis for a congressional decision.

Conclusion

The Sierra Club has reviewed the SJRRRC EIS, the PWA EIS, the NMGS EIS and the SJBCO and has found that each contains severe deficiencies which must be remedied before these documents will comply with NEPA. It is essential that the proposed actions and the alternatives to them are fully articulated and analyzed. Only then will these EISs be useful tools for agency and congressional decisionmaking.

Sierra Club Legal Defense Fund, Inc.
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DATED: April 8, 1983

NEW MEXICO NATURAL HISTORY INSTITUTE

A Nonprofit Corporation

St John's College Campus
Santa Fe New Mexico 87501

6 April 1983

Charles W. Luscher, State Director (912)
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501Comments on San Juan
Basin Action Plan,
Draft EIS, Proposed
Wilderness Areas

Dear Mr. Luscher:

Our analysis of the three wilderness study areas in San Juan County suggests three different dispositions:

1. The Bisti ACEC should be protected against mineral entry and vehicular entry. Whether it should be designated a wilderness by the Congress seems dubious: small size, impacts of nearby mining activities, and possibly a major long-term source of pollution (generating station) just to the south would make this an area below usual wilderness standards. We propose a tightened ACEC management plan and designation as a research natural area (for the fossils). Plans should be given full public exposure, with a commitment to public review prior to any future change in management.

2. De-ha-Zin is a fairly good wilderness area, and it is important that some large tract in San Juan County additional to the topographically and geologically distinct National Historical Park receive Congressional protection. The paleontological and cultural sites are important. We strongly recommend wilderness designation for as large an area of the WSA as is compatible with Navajo rights and privately-owned mineral rights. We do not think that Bureau proposals have been as innovative as they might be toward the goal of consolidating ownership of land and mineral rights in continuous blocks.

3. Ah-shi-sle-pah is too valuable a paleontological (and cultural?) resource, too important to resident Navajos, and too close to Chaco Culture National Historical Park for the proposed complete release from protection--in spite of its valuable coal resource. Furthermore (of special interest to this Institute) it contains the best example of native grassland of any of the areas under present consideration: we consider the Bureau to be delinquent in its complete failure to propose natural-area protection for any San Juan Basin grassland or shrubland. In view of the Bureau's failure to demonstrate any need in the 1980's for additional coal leasing in the San Juan Basin we propose for Ah-shi-sle-pah WSA and adjacent areas east of N.M. Route 56 near the National Historical Park:

(a) that they be removed from present consideration for further processing of PRLA's or for other leasing;

(b) that after due consideration of the rights of PRLA holders --presently in question--any valid rights in the above area be exchanged for leases in a proposed competitive-leasing area;

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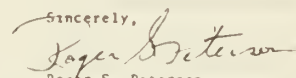
(c) that the rights of Navajos in the area be worked out more carefully than has yet been done, and, where appropriate, that surface rights to grazing land as well as to homesites be turned over to present occupants;

(d) that inventory of cultural and fossil resources be completed, with permanent protective measures for valuable sites;

(e) that a research natural area be designated in the area to protect at least 640 acres of native grass- and shrubland, with grazing excluded after expiration of present lease; and

(f) that around 1990, if demand for coal should warrant, the area again be considered for leasing, subject to the foregoing reservations of special areas.

Sincerely,


Roger S. Peterson
Secretary

NEW MEXICO NATURAL HISTORY INSTITUTE

A Nonprofit Corporation

St John's College Campus
Santa Fe New Mexico 87501

6 April 1983

Charles W. Luscher, State Director (934A)
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501Comments on San Juan
Basin Action Plan,
Generating Station DEIS

Dear Mr. Luscher:

In our opinion, the proposed generating station would be too destructive of nearby environmental and cultural values for approval at this time. Technologies using coal gasification or renewable resources may well become feasible before the time--1995--when the Public Service Company says it might need the first unit of the proposed plant, and other plans might then seem better than a generating station here. Further, the permit to build should not be issued until water rights and Indian occupancy rights have been settled.

Much as this Institute would like to see the Ute Mountain land added to national resource lands, we favor the Delay-of-Action alternative for a period of at least six years.

Sincerely,


Roger S. Peterson
Secretary

NEW MEXICO NATURAL HISTORY INSTITUTE

A Nonprofit Corporation

St John's College Campus
Santa Fe New Mexico 87501

5 April 1983

Charles W. Luscher, State Director
Bureau of Land Management
P.O. Box 1449
Santa Fe, New Mexico 87501Comments on San Juan
Basin Action Plan,
Regional Coal Draft EIS

Dear Mr. Luscher:

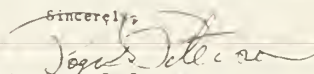
In our opinion, the Bureau has failed to establish national need within the stated time periods for the proposed 2.45 billion tons of coal proposed to be mined in the San Juan Basin. Wrong assumptions--especially regarding a Star Lake-Bisti Railroad--that affect competitive feasibility of the proposed mining are used in the Draft EIS. PRLA's are treated as though they confer unconditional established rights, but in fact they result from a long series of irregularities (including an inadequate environmental assessment in 1981 and inadequate attention to the National Environmental Policy Act now) that have yet to be resolved. Navajo occupancy rights are ignored (except in statements that Indians will be displaced) rather than weighed against the dollars that will accrue to lessees and government.

Reliable analyses of the 600 already-existing federal coal leases show that only 20% are now in production and that by 1991, at most another 40% will be in production, leaving a large fraction of the 18 billion tons of coal under lease in reserve at that time. Now seems to be a very bad time to open new competitive leasing: why rush more goods to a glutted market?

The Fossil Forest and other paleontological sites--admitted by the Bureau to be of international significance--are not adequately protected by the proposals. These areas should be among the last to be made available--probably after 1999--rather than put into private control now, before long-term needs for federal coal are clear. They might never be needed.

All in all, none of the five proposed actions and alternatives seems rational nor, given the lack of balanced consideration of Navajos and environment, even legal. Therefore we can support none of them.

Sincerely,


Roger S. Peterson
Secretary

SUNBELT MINING COMPANY, INC.

PA BOX 7106
ALBUQUERQUE, NEW MEXICO 87103
505-823-8330

April 5, 1983

Mr. Richard T. Watta
Bureau of Land Management
900 N. La Plata Highway
P.O. Box 568
Farmington, N.M. 87499

Re: San Juan River Regional Coal
Draft Environmental Impact Statement (DEIS)

Dear Mr. Watta:

Sunbelt has reviewed the subject DEIS and offers the following comments for your consideration. By way of general comment, the DEIS appears to ascertain and focus on adverse impacts in great detail while describing the positive impacts of leasing and mining in very general and sketchy terms. I think it would be helpful to the decision-makers who utilize the information in these documents if the positive aspects were described as clearly and in as much detail as the negative. As an example, the DEIS is generally lacking in information on expected employment (direct and indirect), wages, taxes, and revenues produced, capital investments required, effects on the local labor force in terms of current employment and unemployment levels, number of persons entering the labor force yearly, skill requirements, skill training programs and the like. This type of information would be very useful for the decision-makers and the public at large in furthering the understanding and significance of the proposed actions.

Another general comment involves the proposed leasing levels and alternatives addressed by BLM. Sunbelt supports the concept of leasing for reserves, rather than leasing to meet a specific market demand for coal. By the time a market is identified, only those companies with in-place, or soon to be in-place, production will be in a position to respond and possibly get the business. As it takes 7-10 years to lease a property, take it through the permitting stage, construct the mine facilities and begin to produce coal, leasing for the market is obviously unworkable. Leasing for reserves, however, gives the marketplace the opportunity to work. Only those companies who feel they can develop and market their leases within the required ten-year diligence period will acquire new leases, and the selection of, and prices paid for, leases will be optimized. The BLM would receive fair market value because they would have been paid what the leases are worth. More importantly, BLM and the state are positioned to earn royalties if the coal on the lease can be produced and sold. In terms of relative values, royalties paid on a typical 640 acre section of

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surface minable San Juan Basin coal can run into the tens of millions of dollars as opposed to bonus bids that, even at the \$1000/acre level (which is high), would generate far less than \$1 million per section.

Finally, the DEIS attempts to assess specific impacts on proposed lease tracts. It should be noted that leasing does not allow mining to take place. Hence, leasing, which has few, if any, specific environmental impacts, should be the focus of the EIS. Specific tract effects can be realistically assessed only when those tracts are included in a mine plan proposal that is part of a mine permit application. Only at this stage would BLM be able to realistically assess impacts. As such, we object to the tract-specific impact and mitigation discussions contained in this DEIS as being premature. The effects of mining should only be addressed generically in this EIS with specific tract assessments deferred to the site-specific EIS required for each project at the permitting stage.

Our specific comments are as follows:

1. Page 2-30, Wilderness - The discussion should note that the Bisti and De-Na-Zin NSAs are included in the overall Bisti/De-Na-Zin ACEC that encompasses nearly 34,000 acres. This area forms a continuous block of recreation and wilderness lands that would be managed to protect those inherent values regardless of the eventual outcome of the wilderness proposals.
2. Page 3-3, Air Quality - Background air quality levels recorded at Zuni, New Mexico, seem remote considering the major activity locations proposed in the DEIS. Perhaps a more appropriate background value could have been obtained closer to the central portion of the San Juan Basin from existing monitors in the area.
3. Page 3-4, Social and Economic Factors - No rationale is given for BLM's assumed proportions of local hires vs. in-migrants.
4. Page 3-8, Paleontology - BLM states that five paleontological sites on PRLA's under long-term study would be destroyed by mining. In reality, the scientific values of these sites may well be extracted prior to mining depending on when the sites are mined. With adequate notice, most paleontological sites can be quickly and efficiently mitigated prior to mining. The paleontology discussion in general throughout the DEIS is deficient as the significance of sites that may potentially be disturbed is not stated and is presumably unknown.
5. Page 3-10, Water Resources, Ground Water - The DEIS states that well yields from the Pictured Cliffs Sandstone (PC) could be affected through drawdown. I am not aware of any wells completed in the PC, nor of any use of PC waters for either animal or human purposes. The DEIS also states the Westwater Canyon Member of the Morrison Formation will experience 2,000 feet of drawdown as a result of mining activities. However,

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Table 2-7, p. 2-22, lists the Westwater as ranging only from 50-800 feet thick. This latter comment also applies to other aquifers noted in the discussion on drawdown.

6. Page 3-14, Wilderness - The DEIS states that nearby surface mining sights and sounds will disrupt "naturalness" and "opportunities for solitude" in the Bisti NSA. However, BLM's Wilderness Study Policy (Feb. 3, 1982), indicates that naturalness refers to the area within the NSA boundaries, not outside activities. In addition, consideration of outside sights and sounds is only one of five criteria for assessing opportunities for solitude.
7. Page 3-14, Recreation - The DEIS states that mining of NM-11916 would adversely affect the "primitive recreation experience" of the Bisti NSA. However, BLM's Wilderness Study Policy does not consider outside sights and sounds when assessing the presence of primitive and unconfined recreational opportunities on NSAs. In fact, the DEIS curiously omits discussion of a far greater potential for adverse impacts within the NSA; namely, the likelihood of an abrupt and tremendous detrimental increase in visitorship due to publicity attendant to the creation of a new wilderness area.
8. Page 3-18, Social and Economic Factors, Employment - BLM's assumptions concerning local hires vs in-migrants do not seem reasonable given the preponderance of unemployment within the region, the large number of new entrants to the labor force on a yearly basis, and the attempts locally to train and retrain local workers.
9. Page 3-25, American Indian Concerns - The DEIS does not address the concerns of local Native Americans who do not have access to the traditional sheep herding/subsistence way of maintaining themselves and who must leave the area for wage work in remote locales in order to make a living. Coal mining, through its numerous and relatively high-paying jobs, could create a substantial positive impact on continuity of the Native American lifestyle and culture by providing jobs within the region for the current and coming generations of Indian youth. These positive effects should be detailed.
10. Page 3-26, Air Quality - The DEIS claims that the New Mexico 24-hour standard for TSP emissions would be exceeded. This statement overlooks the fact that coal mine permit regulations require strict adherence to TSP standards, and that, if necessary, controls must be instituted to ensure adherence. The conditions assumed by BLM would not occur because the permitting authorities responsible for control of TSP would not allow them to occur. This applies to Air Quality discussions throughout the DEIS.

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11. Page 3-27, Paleontology - Paleontology impacts are given in terms of number of localities disturbed, with no discussion of the significance, or lack thereof, of the resources in question. This is an important point in that, as reported in the literature, the vast majority of fossil localities in the area are of common, scientifically inconsequential fossil wood and wood scatterers. This applies to paleontology discussions throughout the DEIS.
12. Page 3-27, Soils - The DEIS states that a loss of soil (undefined quantities) would occur due to mine-related increases in sedimentation and (implied) wind erosion. Sedimentation and wind erosion rates are both mandated to be controlled according to precise standards of the mining regulatory authorities. As these standards are designed to restrict sedimentation and wind erosion rates to acceptable levels, these issues are of only minor significance. In fact, mining may retard the effects of sedimentation and erosion now occurring (see pp. 2-15 and 3-61 of the DEIS).

The DEIS also discusses contamination of top and sub-soils. Accidental contamination as described could, of course, occur. However, disposal into the pit is a simple matter. In terms of contamination by mixing of spoils, topsoil and useful subsoils are segregated in the mining process, as required by regulation, precisely to prevent or minimize such occurrences.

Comments on loss of soil productivity, permeability, infiltration rates and compaction are contrary to the discussions on pp. 2-15 and 3-61 of the DEIS. While the negative consequences discussed are, to a limited extent, possible, surface mining generally improves both the soils and vegetative productivity of areas like the San Juan Basin where so much of the area has been seriously overgrazed with a resulting loss of both useful vegetation and the upper soil horizons.

13. Page 3-33, Visual Resources - The DEIS states that Bisti tracts #4 and #6 would cause significant visual impacts. However, Bisti tract #4, noted as being within the Fossil Forest, is in fact outside of this area (per locational definition for the Fossil Forest on p. 2-30). Bisti tract #6 is located within a VRM Class III area (Visual B) approximately 1.5 miles west of, and downslope from, the Bisti NSA. Given the intervening topography and distance, it is hard to imagine any visual effect on the Bisti NSA from mining tract #6. In addition, tract #6 would be mined in conjunction with existing federal leases that adjoin tract #6 to the east. The visual impact of mining the existing lease, if any, would disproportionately outweigh any incremental visual effect of mining Bisti tract #6. In addition, it should be noted that BLM's Wilderness Study Policy specifically prohibits creation of protective buffer zones around wilderness areas. The fact that non-wilderness activities or uses can be seen or heard

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from areas within the wilderness shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area.

14. Page 3-33, Recreation - Recreation impacts of mining Bisti tract #4 and #6 need to be reassessed per the discussion in comment #13, above.
15. Page 3-43, Visual Resources - Effects of surface mining Bisti tract #2 would be similar to, and dominated by, visual effects of mining the adjacent existing federal coal lease. Neither the extent of the affected badlands, their specific visual quality, or hypothetical effects on visual quality on the adjacent Bisti WSA/ACEC have been quantified in this statement.
16. Page 3-43, Recreation Resources - See Bisti tract #2 discussion in Comment #15, above.
17. Page 3-51, Wilderness - The proposed mitigation for Bisti tract #6 is neither workable nor desirable. As stated in Comment #13, visual effects from mining the adjacent federal leases in conjunction with tract #6 would dominate any additional incremental contribution from mining tract #6. Construction of a berm around tract #6 would only serve to draw attention to the area. In addition, it is difficult to imagine how a berm would serve to "shade" night lighting, or the need for this type of activity, especially on a tract as removed from the Bisti WSA as tract #6.

The DEIS also suggests that reclamation should be designed to "keep the sight of the incongruous terrain at a minimum from inside the WSA." Please refer to Comment #13 for a discussion as to why the view outside of the WSA is irrelevant in discussing mitigation of this tract. Also, it may be of interest to BLM that Sunbelt has completed visual assessment studies for the Gateway Mine, an area much closer to the WSA than tract #6. These studies found that reclaimed lands in this area will tend to blend with the rolling sandy uplands and alluvial pediments that are common to the general area. The reclaimed landscape would not be "incongruous" to the area, but in fact similar to the existing terrain features that adjoin tract #6.

Finally, the mitigation measures proposed for tract #6 are equally as inappropriate for Bisti tract #2, and should therefore be amended or dropped.

The testimony and information regarding the visual assessment developed for Sunbelt's Gateway Mine, which is directly applicable to this section of the DEIS, is available through the Mining and Minerals Division, New Mexico Energy and Minerals Department, in Santa Fe.

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napped over 340,000 acres of badlands in off-reservation areas of San Juan County alone. In addition, Sunbelt commissioned a thorough, professional review of both the extent of badland topography and the "uniqueness" of badland features throughout the Basin in conjunction with an unsuitability petition filed against the Gateway Mine project. The results of these studies were presented before the Mining and Minerals Division (MMD), New Mexico Energy and Minerals Department, in June 1982. The conclusions of these studies, which were accepted in total by both the Director, MMD, and the members of the New Mexico Coal Surface Mining Commission, are that the landforms represented in the badlands of the Hunter Wash area are not unique but are in fact common throughout the basin wherever the Fruitland-Kirtland geologic unit outcrops and/or has been eroded into. Further, the Fruitland-Kirtland badlands and landforms are very similar to badlands in other geologic units throughout the Basin. The claim of uniqueness applies to these landforms only in a manner similar to the fact that each piece of ground is unique unto itself. The description of "unique" simply does not apply to these landforms as the word is commonly defined and used. Transcripts of the testimony and supporting information on this discussion is available through the MMD's Gateway hearing record in Santa Fe.

24. Page A-11, Bisti #6/8 Tract - Discussions of this tract should acknowledge that as a bypass tract, it would be mined only in conjunction with a larger operation on adjacent lands. This would result in a change in the number of employees needed to mine the tract, water requirements, etc., since the larger Bisti Mine, of which tract #6/8 would be a part, is already included in the No Action Alternative. In terms of soils, mining is very likely to decrease erosion, as pointed out in Comment #12 and DEIS statements on pp. 2-15 and 3-61.

Groundwater impacts are also overstated. I am not aware of anything in the literature that suggests that the Pictured Cliffs Sandstone (PC) is under sufficient static pressure that upward leakage would occur as a result of removing all of the confining layers above the PC. Indeed, the in situ Fruitland coal lying atop the PC, being rather porous, should be saturated in its normal state if the PC had any tendency to exhibit upward leakage. As the coal is not saturated, this does not appear to be a legitimate concern.

In terms of potential destruction of alluvial washes, the only affected area would be the area directly impacted by mining, as washes would be routed around active mining areas and returned to their normal channels immediately downstream. The DEIS addresses this issue on p. 3-61.

The visual impact discussion suffers from the same deficiencies noted in Comments #13 and #17. In addition, the term "Bisti/De-Na-Zin ACEC (proposed)" is not used.

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18. Page 3-54, No Action Alternative - For comments on the discussion of paleontology, refer to Comments #4 and #11. In addition, the DEIS states that the Fruitland-Kirtland Formation contains an "unparalleled record" of the abrupt transition from dinosaurs to mammals. My understanding is that this record, if it indeed exists within the sediments of the San Juan Basin, would be found in formations above the Fruitland-Kirtland. For comments on wilderness and recreation, see Comments #6 and #7; socio-economics, the first general introductory comment and Comments #8 and #9.
19. Page 3-55, Bypass Alternative - See Comment #12, relating to soils. In addition, statements made regarding runoff and soil losses contradict discussions on water resources, p. 3-61 of the DEIS.
20. Page 3-56, Bypass Alternative - For a discussion on aesthetic impacts from mining Bisti tract #6, see Comments #13, #14, and #17. For a similar discussion on Bisti tract #4, see Comment #13.
21. Page 3-57, Target Alternative - For a discussion on paleontology effects, see Comments #4 and #11.
22. Page 3-58, Relationship Between Short-Term Use and Long-Term Productivity - The DEIS takes great pains to note disturbed acreage for each alternative. It would be of interest to contrast this acreage, here or perhaps under current and proposed land uses, with the acreage of lands devoted to wilderness, WSA's and ACEC's, recreation areas and the like within the study area. It may also be useful to list the acreage of public lands available and used for grazing in order to demonstrate that the proposed coal development alternatives would not overwhelm those persons utilizing public domain lands for grazing purposes.
23. Page 3-60, Irreversible and Irrecoverable Commitments of Resources - The DEIS repeatedly singles out Bisti tracts #2, #4, and #6 as having scenic, recreational and scientific values that would be lost through alteration, by mining, of their unique natural land forms. We would suggest that, contrary to BLM's assumption, not all badlands contain all, or even any, of the assumed values. Certainly the information presented in the DEIS is not convincing on these issues; rather, BLM appears to have come to the unsupported conclusion that, since BLM's in-depth studies on the Bisti WSA conclude that the WSA contains important scenic, recreational and scientific values, all similar badlands must share the same attributes. Without specific studies of the subject values on each tract, it appears BLM's conclusions pertaining to these tracts are generally without merit. Further, we take issue with the term "unique natural landforms." The USDA, Soil Conservation Services' Survey of Eastern San Juan County, NMPD, which is quoted in the DEIS and listed as a reference,

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consistently with prior discussions relating to "Bisti Management Area" (p. 2-33) and p. 3-56) and "Bisti WSA."

The Cultural Resources section lists two "sacred" burial sites in Section 15. Certainly the final resting places of the dead deserve respect and consideration, but we question the use of the term "sacred"; this connotation is generally reserved for places of religious importance.

Recreation impacts appear to be overstated. Surface mining would no doubt significantly alter the existing topography and whatever scenic features that may be present. However, we question the validity of extrapolating the specific recreational and scenic qualities of "the area" (i.e., the Bisti WSA) to these particular tracts as noted in Comment #23. The DEIS analysis does not contain sufficient information to quantify these issues on these tracts.

In terms of wilderness effects, please refer to Comments #6 and #7.

25. Page A-21, Bisti #4 Tract - Recreation impacts state that this tract is located within the Fossil Forest. However, the description of the Fossil Forest on p. 2-30 of the DEIS, and maps included with the DEIS, dispute this claim. Also, this tract would be mined in conjunction with the Bisti Mine and/or the Arch Mineral PML's, both of which are included as baseline projects in the No Action Alternative. Thus, effects on additional employment, water usage, etc., associated with this tract are overstated. For comments on soil erosion and ground water impacts, see Comments #12 and #24.

26. Page A-27, Bisti #2 Tract - In terms of employment, water usage, etc., see Comment #25. In terms of wilderness effects, refer to comments #6 and #7. In addition, please note that this tract is nowhere near the Ah-She-She-Pah WSA.

The above concludes our comments. BLM has obviously expended a great deal of time and effort in compiling the information in the DEIS and, in general, we feel you have done a very good job. Sunbelt also offers our support and endorsement of the DEIS's proposed alternative.

Thank you for the opportunity to comment.

Very truly yours,

Robert A. Jackson
Robert A. Jackson
Manager, Corporate Affairs

RJ/nm

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BASIN CUMUATIVE MENT LETTERS

(Continued on reverse)

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